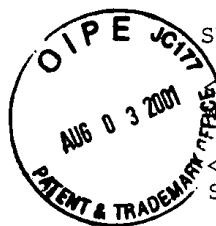


RECEIVED

AUG 07 2001

TECH CENTER 1600/2900



SEQUENCE LISTING

<110> Subramaniam, S.; Slater, S.; Karberg, K.; Chen, R.; Valentin, H.;
ong, Y.

<120> Nucleic Acid Sequences to Proteins Involved in Tocopherol
Synthesis

<130> 16515.054

<140> US 09/688,069

<141> 2000-10-14

<160> 114

<210> 1

<211> 1182

<212> DNA

<213> Arabidopsis sp.

<400> 1

atggagtcctc	tgctctctag	ttcttctctt	gtttccgctg	ctggtggggt	ttgttggaag	60
aagcagaatc	taaagctoca	ctctttatca	gaaatccgag	ttctgcgttg	tgattcgagt	120
aaagttgtcg	caaaaaccgaa	gttttaggaac	aatcttggtt	ggcctgatgg	tcaaggatct	180
tcattgttgt	tgtatccaaa	acataagtcg	agatttcggg	ttaatgccac	tgcggtcag	240
cctgaggctt	tcgactcgaa	tagcaaacag	aagtccttta	gagactcggt	agatgcgttt	300
tacaggtttt	ctaggcctca	tacagttatt	ggcacagtgc	ttagcatttt	atctgtatct	360
ttcttagcag	tagagaaggt	ttctgatata	tctcctttac	ttttcactgg	catcttggag	420
gctgttggtg	cagctctcat	gatgaacatt	tacatagttg	ggctaaatca	gttgtctgat	480
gttgaaatag	ataaggttaa	caagccctat	cttccattgg	catcaggaga	atattctggt	540
aacaccggca	ttgcaatagt	agcttccttc	tccatcatga	gtttctggct	tgggtggatt	600
gttggttcat	ggccattggt	ctgggctctt	tttgtgagtt	tcagtctcgg	tactgcatac	660
tctatcaatt	tgccactttt	acggtggaaa	agatttgcac	tggttgcagc	aatgtgtatc	720
ctcgtgtgcc	gagctattat	tgttcaaata	gccttttatc	tacatatcca	gacacatgtg	780
tttgggaagac	caatcttggt	cactaggcct	cttattttcg	ccactgcgtt	tatgagcttt	840
ttctctgtcg	ttattgcatt	gtttaaggat	atacctgata	tcgaagggga	taagatatcc	900
ggaatccgat	cattctctgt	aactctgggt	cagaaacggg	tgttttggac	atgtgttaca	960
ctacttcaaa	tggcttaacg	tgttgcaatt	ctagttggag	ccacatctcc	atccatatgg	1020
agcaaagtca	tctcggttgt	gggtcatggt	atactcgcaa	caactttgtg	ggctcgagct	1080
aagtccggtg	atctgagtag	caaaaaccgaa	ataacttcat	gttatatggt	catatggaag	1140
ctcttttatg	cagagtactt	gctgttacct	tttttgaagt	ga		1182

<210> 2

<211> 393

<212> PRT

<213> Arabidopsis sp.

<400> 2

Met	Glu	Ser	Leu	Leu	Ser	Ser	Ser	Ser	Leu	Val	Ser	Ala	Ala	Gly	Gly	15
1				5					10							
Phe	Cys	Trp	Lys	Lys	Gln	Asn	Leu	Lys	Leu	His	Ser	Leu	Ser	Glu	Ile	30
			20					25								
Arg	Val	Leu	Arg	Cys	Asp	Ser	Ser	Lys	Val	Val	Ala	Lys	Pro	Lys	Phe	45
			35					40								
Arg	Asn	Asn	Leu	Val	Arg	Pro	Asp	Gly	Gln	Gly	Ser	Ser	Leu	Leu	Leu	

50 55 60
 Tyr Pro Lys His Lys Ser Arg Phe Arg Val Asn Ala Thr Ala Gly Gln
 65 70 75 80
 Pro Glu Ala Phe Asp Ser Asn Ser Lys Gln Lys Ser Phe Arg Asp Ser
 85 90 95
 Leu Asp Ala Phe Tyr Arg Phe Ser Arg Pro His Thr Val Ile Gly Thr
 100 105 110
 Val Leu Ser Ile Leu Ser Val Ser Phe Leu Ala Val Glu Lys Val Ser
 115 120 125
 Asp Ile Ser Pro Leu Leu Phe Thr Gly Ile Leu Glu Ala Val Val Ala
 130 135 140
 Ala Leu Met Met Asn Ile Tyr Ile Val Gly Leu Asn Gln Leu Ser Asp
 145 150 155 160
 Val Glu Ile Asp Lys Val Asn Lys Pro Tyr Leu Pro Leu Ala Ser Gly
 165 170 175
 Glu Tyr Ser Val Asn Thr Gly Ile Ala Ile Val Ala Ser Phe Ser Ile
 180 185 190
 Met Ser Phe Trp Leu Gly Trp Ile Val Gly Ser Trp Pro Leu Phe Trp
 195 200 205
 Ala Leu Phe Val Ser Phe Met Leu Gly Thr Ala Tyr Ser Ile Asn Leu
 210 215 220
 Pro Leu Leu Arg Trp Lys Arg Phe Ala Leu Val Ala Ala Met Cys Ile
 225 230 235 240
 Leu Ala Val Arg Ala Ile Ile Val Gln Ile Ala Phe Tyr Leu His Ile
 245 250 255
 Gln Thr His Val Phe Gly Arg Pro Ile Leu Phe Thr Arg Pro Leu Ile
 260 265 270
 Phe Ala Thr Ala Phe Met Ser Phe Phe Ser Val Val Ile Ala Leu Phe
 275 280 285
 Lys Asp Ile Pro Asp Ile Glu Gly Asp Lys Ile Phe Gly Ile Arg Ser
 290 295 300
 Phe Ser Val Thr Leu Gly Gln Lys Arg Val Phe Trp Thr Cys Val Thr
 305 310 315
 Leu Leu Gln Met Ala Tyr Ala Val Ala Ile Leu Val Gly Ala Thr Ser
 325 330 335
 Pro Phe Ile Trp Ser Lys Val Ile Ser Val Val Gly His Val Ile Leu
 340 345 350
 Ala Thr Thr Leu Trp Ala Arg Ala Lys Ser Val Asp Leu Ser Ser Lys
 355 360 365
 Thr Glu Ile Thr Ser Cys Tyr Met Phe Ile Trp Lys Leu Phe Tyr Ala
 370 375 380

Glu Tyr Leu Leu Leu Pro Phe Leu Lys
385 390

<210> 3
<211> 1224
<212> DNA
<213> Arabidopsis sp.

<400> 3
atggcggtttt ttgggctctc ccgtgtttca agacggttgt tgaaatcttc cgtctccgta 60
actccatctt cttcctctgc tcttttgcaa tcacaacata aatccttgtc caatcctgtg 120
actaccatt acacaaatcc ttctactaag tgttatcctt catggaatga taattaccaa 180
gtatggagta aaggaagaga attgcatcag gagaagtttt ttgggtgttg ttggaattac 240
agattaattt gtggaatgtc gtcgtcttct tcgggttttg agggaaagcc gaagaaagat 300
gataaggaga agagtgtggt tgttgtgttt aagaaagctt ctgggataga tttgtattta 360
ccagaagaag ttagagggtta tgctaagctt gctcgattgg ataaacccat tggactttgg 420
ttgcttgctg ggccttgtat gtgggtcgatt gcgttggctg ctgactctgg aagccttcca 480
agttttaaat atatggcctt atttgggtgc ggagcattac ttcttagagg tgctggttgt 540
actataaatg atctgcttga tcaggacata gatacaaagg ttgatcgtag aaaactaaga 600
cctatcgcca gtgggtctttt gacaccattt caagggattg gatttctcgg gctgcagtgt 660
cttttaggct tagggattct tctccaactt aacaattaca gccgtgtttt aggggcttca 720
tctttgtttac ttgtcttttc ctaccactt atgaagaggt ttacattttg gcctcaagcc 780
tttttagggt tgaccataaa ctggggagca ttgttaggat ggactgcagt taaaggaagc 840
atagcaccat ctattgtact ccctctctat ctctccggag tctgctggac ccttgtttat 900
gatactattt atgcacatca ggacaaagaa gatgatgtaa aagttgggtg taagtcaaca 960
gcccttagat tcggtgataa tacaagcctt tgggttaactg gatttggcac agcatccata 1020
ggttttcttg cactttctgg attcagtga gatctcgggt ggcaatatta cgcactcactg 1080
gccgctgcat caggacagtt aggatggcaa atagggacag ctgacttatc atctggtgct 1140
gactgcagta gaaaatttgt gtcgaacaag tggtttggtg ctattatatt tagtggaagt 1200
gtacttgga gaagttttca ataa 1224

<210> 4
<211> 407
<212> PRT
<213> Arabidopsis sp.

<400> 4
Met Ala Phe Phe Gly Leu Ser Arg Val Ser Arg Arg Leu Leu Lys Ser 15
1 5 10
Ser Val Ser Val Thr Pro Ser Ser Ser Ser Ala Leu Leu Gln Ser Gln 30
20 25
His Lys Ser Leu Ser Asn Pro Val Thr Thr His Tyr Thr Asn Pro Phe 45
35 40
Thr Lys Cys Tyr Pro Ser Trp Asn Asp Asn Tyr Gln Val Trp Ser Lys 60
50 55 60
Gly Arg Glu Leu His Gln Glu Lys Phe Phe Gly Val Gly Trp Asn Tyr 80
65 70 75
Arg Leu Ile Cys Gly Met Ser Ser Ser Ser Ser Val Leu Glu Gly Lys 95
85 90
Pro Lys Lys Asp Asp Lys Glu Lys Ser Asp Gly Val Val Val Lys Lys

100	105	110
Ala Ser Trp Ile Asp Leu Tyr Leu Pro Glu Glu Val Arg Gly Tyr Ala		
115	120	125
Lys Leu Ala Arg Leu Asp Lys Pro Ile Gly Thr Trp Leu Leu Ala Trp		
130	135	140
Pro Cys Met Trp Ser Ile Ala Leu Ala Ala Asp Pro Gly Ser Leu Pro		
145	150	155
Ser Phe Lys Tyr Met Ala Leu Phe Gly Cys Gly Ala Leu Leu Leu Arg		
165	170	175
Gly Ala Gly Cys Thr Ile Asn Asp Leu Leu Asp Gln Asp Ile Asp Thr		
180	185	190
Lys Val Asp Arg Thr Lys Leu Arg Pro Ile Ala Ser Gly Leu Leu Thr		
195	200	205
Pro Phe Gln Gly Ile Gly Phe Leu Gly Leu Gln Leu Leu Gly Leu		
210	215	220
Gly Ile Leu Leu Gln Leu Asn Asn Tyr Ser Arg Val Leu Gly Ala Ser		
225	230	235
Ser Leu Leu Leu Val Phe Ser Tyr Pro Leu Met Lys Arg Phe Thr Phe		
245	250	255
Trp Pro Gln Ala Phe Leu Gly Leu Thr Ile Asn Trp Gly Ala Leu Leu		
260	265	270
Gly Trp Thr Ala Val Lys Gly Ser Ile Ala Pro Ser Ile Val Leu Pro		
275	280	285
Leu Tyr Leu Ser Gly Val Cys Trp Thr Leu Val Tyr Asp Thr Ile Tyr		
290	295	300
Ala His Gln Asp Lys Glu Asp Asp Val Lys Val Gly Val Lys Ser Thr		
305	310	315
Ala Leu Arg Phe Gly Asp Asn Thr Lys Leu Trp Leu Thr Gly Phe Gly		
325	330	335
Thr Ala Ser Ile Gly Phe Leu Ala Leu Ser Gly Phe Ser Ala Asp Leu		
340	345	350
Gly Trp Gln Tyr Tyr Ala Ser Leu Ala Ala Ala Ser Gly Gln Leu Gly		
355	360	365
Trp Gln Ile Gly Thr Ala Asp Leu Ser Ser Gly Ala Asp Cys Ser Arg		
370	375	380
Lys Phe Val Ser Asn Lys Trp Phe Gly Ala Ile Ile Phe Ser Gly Val		
385	390	395
Val Leu Gly Arg Ser Phe Gln		
405		

<211> 1296
 <212> DNA
 <213> Arabidopsis sp.

<400> 5

atgtggcgaa	gatctgttgt	ttctcgttta	tcttcaagaa	tctctgtttc	ttcttcgtta	60
ccaaacccta	gactgattcc	ttgggtcccgc	gaattatgtg	ccgttaatag	cttctcccag	120
cctccggtct	cgacggaatc	aactgctaag	ttagggatca	ctgggtgttag	atctgatgcc	180
aatcgagttt	ttgccactgc	tactgccgcc	gctacagcta	cagctaccac	cggtgagatt	240
tcgtctagag	ttgcggcttt	ggctggatta	gggcatcact	acgctcgttg	ttattgggag	300
ctttctaaag	ctaaacttag	tatgcttgtg	gttgcaactt	ctggaactgg	gtatattctg	360
ggtagcgga	atgctgcaat	tagcttcccg	gggctttgtt	acacatgtgc	aggaaccatg	420
atgattgctg	catctgctaa	ttccttgaat	cagatttttg	agataagcaa	tgattctaag	480
atgaaaagaa	cgatgctaag	gccattgcct	tcaggacgta	ttagtgttcc	acacgctggt	540
gcatgggcta	ctattgctgg	tgcttctggt	gcttgtttgt	tgccagcaa	gactaatatg	600
ttggctgctg	gacttgcatc	tgccaatcct	gtactttatg	cgtttgttta	tactccgttg	660
aagcaacttc	accctatcaa	tacatgggtt	ggcgctgttg	ttgggtgctat	cccacccttg	720
cttgggtggg	cggcagcgtc	tggtcagatt	tcatacaatt	cgatgattct	tccagctgct	780
ctttactttt	ggcagataacc	tcattttatg	gcccttgca	atctctgccg	caatgattat	840
gcagctggag	gttacaagat	gttgtcactc	tttgatccgt	cagggagag	aatagcagca	900
gtggctctaa	ggaactgctt	ttcatatgat	cctctcggtt	tcatcgcccta	tgactggggg	960
ttaacctcaa	gttggttttg	cctcgaatca	acacttctca	cactagcaat	cgctgcaaca	1020
gcattttcat	tctaccgaga	ccggaccatg	cataaagcaa	ggaaaatgtt	ccatgccagt	1080
cttctcttcc	ttcctgtttt	catgtctggt	cttcttctac	accgtgtctc	taatgataat	1140
cagcaacaac	tcgtagaaga	agccggatta	acaaattctg	tatctggtga	agtcaaaact	1200
cagaggcgaa	agaaacgtgt	ggctcaacct	ccggtggctt	atgcctctgc	tgcaccgttt	1260
cctttctctc	cagctccttc	cttctactct	ccatga			1296

<210> 6
 <211> 431
 <212> PRT
 <213> Arabidopsis sp.

<400> 6

Met	Trp	Arg	Arg	Ser	Val	Val	Tyr	Arg	Phe	Ser	Ser	Arg	Ile	Ser	Val	
1				5					10					15		
Ser	Ser	Ser	Leu	Pro	Asn	Pro	Arg	Leu	Ile	Pro	Trp	Ser	Arg	Glu	Leu	
			20					25					30			
Cys	Ala	Val	Asn	Ser	Phe	Ser	Gln	Pro	Pro	Val	Ser	Thr	Glu	Ser	Thr	
	35						40					45				
Ala	Lys	Leu	Gly	Ile	Thr	Gly	Val	Arg	Ser	Asp	Ala	Asn	Arg	Val	Phe	
	50					55				60						
Ala	Thr	Ala	Thr	Ala	Ala	Ala	Thr	Ala	Thr	Ala	Thr	Thr	Gly	Glu	Ile	
	65			70					75					80		
Ser	Ser	Arg	Val	Ala	Ala	Leu	Ala	Gly	Leu	Gly	His	His	Tyr	Ala	Arg	
			85					90						95		
Cys	Tyr	Trp	Glu	Leu	Ser	Lys	Ala	Lys	Leu	Ser	Met	Leu	Val	Val	Ala	
			100					105					110			
Thr	Ser	Gly	Thr	Gly	Tyr	Ile	Leu	Gly	Thr	Gly	Asn	Ala	Ala	Ile	Ser	
			115				120					125				

Phe Pro Gly Leu Cys Tyr Thr Cys Ala Gly Thr Met Met Ile Ala Ala
 130 135 140
 Ser Ala Asn Ser Leu Asn Gln Ile Phe Glu Ile Ser Asn Asp Ser Lys
 145 150 155 160
 Met Lys Arg Thr Met Leu Arg Pro Leu Pro Ser Gly Arg Ile Ser Val
 165 170 175
 Pro His Ala Val Ala Trp Ala Thr Ile Ala Gly Ala Ser Gly Ala Cys
 180 185 190
 Leu Leu Ala Ser Lys Thr Asn Met Leu Ala Ala Gly Leu Ala Ser Ala
 195 200 205
 Asn Leu Val Leu Tyr Ala Phe Val Tyr Thr Pro Leu Lys Gln Leu His
 210 215 220
 Pro Ile Asn Thr Trp Val Gly Ala Val Val Gly Ala Ile Pro Pro Leu
 225 230 235 240
 Leu Gly Trp Ala Ala Ala Ser Gly Gln Ile Ser Tyr Asn Ser Met Ile
 245 250 255
 Leu Pro Ala Ala Leu Tyr Phe Trp Gln Ile Pro His Phe Met Ala Leu
 260 265 270
 Ala His Leu Cys Arg Asn Asp Tyr Ala Ala Gly Gly Tyr Lys Met Leu
 275 280 285
 Ser Leu Phe Asp Pro Ser Gly Lys Arg Ile Ala Ala Val Ala Leu Arg
 290 295 300
 Asn Cys Phe Tyr Met Ile Pro Leu Gly Phe Ile Ala Tyr Asp Trp Gly
 305 310 315 320
 Leu Thr Ser Ser Trp Phe Cys Leu Glu Ser Thr Leu Leu Thr Leu Ala
 325 330 335
 Ile Ala Ala Thr Ala Phe Ser Phe Tyr Arg Asp Arg Thr Met His Lys
 340 345 350
 Ala Arg Lys Met Phe His Ala Ser Leu Leu Phe Leu Pro Val Phe Met
 355 360 365
 Ser Gly Leu Leu Leu His Arg Val Ser Asn Asp Asn Gln Gln Gln Leu
 370 375 380
 Val Glu Glu Ala Gly Leu Thr Asn Ser Val Ser Gly Glu Val Lys Thr
 385 390 395 400
 Gln Arg Arg Lys Lys Arg Val Ala Gln Pro Pro Val Ala Tyr Ala Ser
 405 410 415
 Ala Ala Pro Phe Pro Phe Leu Pro Ala Pro Ser Phe Tyr Ser Pro
 420 425 430

<210> 7
 <211> 479
 <212> DNA

<213> Arabidopsis sp.

<400> 7

```
ggaaactccc ggagcacctg tttgcaggta cgcctaacct taatcgataa tttatttctc 60
ttgtcaggaa ttatgtaagt ctggtggaag gctcgcatac catttttgca ttgcctttcg 120
ctatgatcgg gtttactttg ggtgtgatga gaccaggcgt ggctttatgg tatggcgaaa 180
acccattttt atccaatgct gcattccctc ccgatgattc gttctttcat tcctatacag 240
gtatcatgct gataaaactg ttactggtac tggtttgtat ggtatcagca agaagcgcg 300
cgatggcggt taaccgggtat ctogacaggc attttgacgc gaagaacccg cgtactgcca 360
tccgtgaaat acctgcgggc gtcatatctg ccaacagtgc gctgggtgtt acgataggct 420
gctgcgtggg attctgggtg gcctgttatt tcattaacac gatctgtttt tacctggcg 479
```

<210> 8

<211> 551

<212> DNA

<213> Arabidopsis sp.

<220>

<221> misc_feature

<222> (1)...(551)

<223> n = A,T,C or G

<400> 8

```
ttgtggctta caccttaatg agcatacggc agnccattac ggctcgtaa tcggcgccat 60
ngcggngct gntgcaccgg tagtgggcta ctgcgccgtg accaatcagc ttgatctagc 120
ggctcttatt ctgtttttaa ttttactgtt ctggcaaatg ccgcattttt acgcgatttc 180
cattttcagg ctaaaagact tttcagcggc ctgtattccg gtgctgcca tcattaaaga 240
cctgcgctat accaaaatca gcatgctggt ttacgtgggc ttatttacac tggctgctat 300
catgccggcc ctcttagggt atgccgggtg gatttatggg atagcggcct taattttagg 360
cttgtattgg ctttatattg ccatacaagg attcaagacc gccgatgatc aaaaatggtc 420
tcgtaagatg tttggatctt cgattttaat cattaccctc ttgtcggtaa tgatgcttgt 480
ttaaacttac tgcctcctga agtttatata tcgataattt cagcttaagg aggcttagtg 540
gttaattcaa t 551
```

<210> 9

<211> 297

<212> PRT

<213> Arabidopsis sp.

<400> 9

```
Met Val Leu Ala Glu Val Pro Lys Leu Ala Ser Ala Ala Glu Tyr Phe
  1          5          10          15
Phe Lys Arg Gly Val Gln Gly Lys Gln Phe Arg Ser Thr Ile Leu Leu
  20          25          30
Leu Met Ala Thr Ala Leu Asn Val Arg Val Pro Glu Ala Leu Ile Gly
  35          40          45
Glu Ser Thr Asp Ile Val Thr Ser Glu Leu Arg Val Arg Gln Arg Gly
  50          55          60
Ile Ala Glu Ile Thr Glu Met Ile His Val Ala Ser Leu Leu His Asp
  65          70          75          80
Asp Val Leu Asp Asp Ala Asp Thr Arg Arg Gly Val Gly Ser Leu Asn
```

85	90	95
Val Val Met Gly Asn Lys Val Val	Ala Leu Leu Ala Thr	Ala Val Glu
100	105	110
His Leu Val Thr Gly Glu Thr	Met Glu Ile Thr Ser Ser	Thr Glu Gln
115	120	125
Arg Tyr Ser Met Asp Tyr Tyr	Met Gln Lys Thr Tyr Tyr	Lys Thr Ala
130	135	140
Ser Leu Ile Ser Asn Ser Cys Lys	Ala Val Ala Val Leu Thr	Gly Gln
145	150	155
Thr Ala Glu Val Ala Val Leu	Ala Phe Glu Tyr Gly Arg	Asn Leu Gly
165	170	175
Leu Ala Phe Gln Leu Ile Asp	Asp Ile Leu Asp Phe Thr	Gly Thr Ser
180	185	190
Ala Ser Leu Gly Lys Gly Ser	Leu Ser Asp Ile Arg His	Gly Val Ile
195	200	205
Thr Ala Pro Ile Leu Phe Ala	Met Glu Glu Phe Pro	Gln Leu Arg Glu
210	215	220
Val Val Asp Gln Val Glu Lys	Asp Pro Arg Asn Val Asp	Ile Ala Leu
225	230	235
Glu Tyr Leu Gly Lys Ser Lys	Gly Ile Gln Arg Ala Arg	Glu Leu Ala
245	250	255
Met Glu His Ala Asn Leu Ala	Ala Ala Ile Gly Ser Leu	Pro Glu
260	265	270
Thr Asp Asn Glu Asp Val Lys	Arg Ser Arg Arg Ala Leu	Ile Asp Leu
275	280	285
Thr His Arg Val Ile Thr	Arg Asn Lys	
290	295	

<210> 10
 <211> 561
 <212> DNA
 <213> Arabidopsis sp.

<400> 10						
aagcgcatcc	gtcctcttct	acgattgccg	ccagccgcat	gtatggctgc	ataaccgacc	60
gcccctatcc	gctcgcgcc	gcggctgaat	tcattcacac	cgcgacgctg	ctgcatgacg	120
acgtcgctcga	tgaaagcgat	ttgcgcgcg	gccgcgaaag	cgcgcataag	gttttcggca	180
atcaggcgag	cgtgctcgtc	ggcgatttcc	ttttctccc	cgccctccag	ctgatgggtg	240
aagacggctc	gctcgacgcg	ctgcgcattc	tctcggatgc	ctccgccgtg	atcgcgacg	300
gcgaagtgat	gcagctcggc	accgcgcgca	atcttgaac	caatatgagc	cagtatctcg	360
atgtgatcag	cgcgaaagacc	gccgcgctct	ttgccgcgc	ctgcgaaatc	ggcccgggtga	420
tggcgaacgc	gaaggcgga	gatgctgccg	cgatgtgcga	atacggcatg	aatctcggtg	480
tcgccttcca	gatcatcgac	gaccttctcg	attacggcac	cggcggccac	gccgagcttg	540
gcaagaacac	gggcgacgat	t				561

<210> 11
 <211> 966
 <212> DNA
 <213> Arabidopsis sp.

<400> 11

atggtacttg	ccgagggtcc	aaagcttgcc	tctgctgctg	agtacttctt	caaaaggggt	60
gtgcaaggaa	aacagtttcg	ttcaactatt	ttgctgctga	tggcgacagc	tctgaatgta	120
cgcgttccag	aagcattgat	tggggaatca	acagatatag	tcacatcaga	attacgcgta	180
aggcaacggg	gtattgctga	aatcactgaa	atgatacacg	tcgcaagtct	actgcacgat	240
gatgtcttgg	atgatgccga	tacaaggcgt	gggtgttggt	ccttaaagt	tgtaatgggt	300
aacaagatgt	cggtatttag	aggagacttc	ttgctctccc	gggcttggtg	ggctctcgct	360
gctttaaaga	acacagaggt	tgtagcatta	cttgcaactg	ctgtagaaca	tcttgttacc	420
ggtgaaacca	tggaaataac	tagttcaacc	gagcagcggt	atagtatgga	ctactacatg	480
cagaagacat	attataagac	agcatcgcta	atctctaaca	gctgcaaagc	tggtgccgtt	540
ctcactggac	aaacagcaga	agttgccgtg	ttagcttttg	agtatgggag	gaatctgggt	600
ttagcattcc	aattaataga	cgacattctt	gatttcacgg	gcacatctgc	ctctctcgga	660
aagggatcgt	tgtagatat	tcgccatgga	gtcataacag	ccccaatcct	ctttgccatg	720
gaagagtttc	ctcaactacg	cgaagttggt	gatcaagttg	aaaaagatcc	taggaatggt	780
gacattgctt	tagagtatct	tgggaagagc	aagggaatac	agagggcaag	agaattagcc	840
atggaacatg	cgaatctagc	agcagctgca	atcgggtctc	tacctgaaac	agacaatgaa	900
gatgtcaaaa	gatcgaggcg	ggcacttatt	gacttgaccc	atagagtcac	caccagaaac	960
aagtga						966

<210> 12
 <211> 321
 <212> PRT
 <213> Arabidopsis sp.

<400> 12

Met	Val	Leu	Ala	Glu	Val	Pro	Lys	Leu	Ala	Ser	Ala	Ala	Glu	Tyr	Phe
1				5				10						15	
Phe	Lys	Arg	Gly	Val	Gln	Gly	Lys	Gln	Phe	Arg	Ser	Thr	Ile	Leu	Leu
			20					25					30		
Leu	Met	Ala	Thr	Ala	Leu	Asn	Val	Arg	Val	Pro	Glu	Ala	Leu	Ile	Gly
			35				40					45			
Glu	Ser	Thr	Asp	Ile	Val	Thr	Ser	Glu	Leu	Arg	Val	Arg	Gln	Arg	Gly
			50			55					60				
Ile	Ala	Glu	Ile	Thr	Glu	Met	Ile	His	Val	Ala	Ser	Leu	Leu	His	Asp
65					70				75					80	
Asp	Val	Leu	Asp	Asp	Ala	Asp	Thr	Arg	Arg	Gly	Val	Gly	Ser	Leu	Asn
				85				90						95	
Val	Val	Met	Gly	Asn	Lys	Met	Ser	Val	Leu	Ala	Gly	Asp	Phe	Leu	Leu
			100					105					110		
Ser	Arg	Ala	Cys	Gly	Ala	Leu	Ala	Ala	Leu	Lys	Asn	Thr	Glu	Val	Val
			115				120					125			
Ala	Leu	Leu	Ala	Thr	Ala	Val	Glu	His	Leu	Val	Thr	Gly	Glu	Thr	Met
			130			135					140				
Glu	Ile	Thr	Ser	Ser	Thr	Glu	Gln	Arg	Tyr	Ser	Met	Asp	Tyr	Tyr	Met

145 150 155 160
 Gln Lys Thr Tyr Tyr Lys Thr Ala Ser Leu Ile Ser Asn Ser Cys Lys
 165 170 175
 Ala Val Ala Val Leu Thr Gly Gln Thr Ala Glu Val Ala Val Leu Ala
 180 185 190
 Phe Glu Tyr Gly Arg Asn Leu Gly Leu Ala Phe Gln Leu Ile Asp Asp
 195 200 205
 Ile Leu Asp Phe Thr Gly Thr Ser Ala Ser Leu Gly Lys Gly Ser Leu
 210 215 220
 Ser Asp Ile Arg His Gly Val Ile Thr Ala Pro Ile Leu Phe Ala Met
 225 230 235 240
 Glu Glu Phe Pro Gln Leu Arg Glu Val Val Asp Gln Val Glu Lys Asp
 245 250 255
 Pro Arg Asn Val Asp Ile Ala Leu Glu Tyr Leu Gly Lys Ser Lys Gly
 260 265 270
 Ile Gln Arg Ala Arg Glu Leu Ala Met Glu His Ala Asn Leu Ala Ala
 275 280 285
 Ala Ala Ile Gly Ser Leu Pro Glu Thr Asp Asn Glu Asp Val Lys Arg
 290 295 300
 Ser Arg Arg Ala Leu Ile Asp Leu Thr His Arg Val Ile Thr Arg Asn
 305 310 315 320
 Lys

<210> 13
 <211> 621
 <212> DNA
 <213> Arabidopsis sp.

<400> 13
 gcttttctct ttgctaattc ttgagctttc ttgatccac cgcgatttct aactatttca 60
 atcgcttctt caagcgatcc aggcacacaa aactcagact caatgatctc tcttagcctt 120
 ggctcattct ctagecgcaa gatcaactgg gccgttatgt tacctttggc taagtcatta 180
 gctgcaggct tacctaactg ctctgtggac tgagtgaagt ccagaatgtc atcaactact 240
 tgaagagata aaccgagatt cttcccgaac tgatacatTT gctctgacac cttgctttcg 300
 actttactga aaattgctgc tcctttgggt cttgcagcta ctaatgaagc tgtctttag 360
 taactcttta gcatgtagtc atcaagcttg acatcacaa cgaataaact cgatgcttgc 420
 tttatctcac cgcttgcaaa atctttgatc acctgcaaaa agataaatca agattcgac 480
 caaatgttct ttgtattgag tagcttcac taatctcaga aaggaatatt acctgactta 540
 tgagcttaat gacttcaagg ttttcgagat ttgtaagtac catgatgctt gagcaacatg 600
 aaatccccag ctaatacagc t 621

<210> 14
 <211> 741
 <212> DNA
 <213> Arabidopsis sp.
 <400> 14

ggtgagtttt	gttaatagtt	atgagattca	tctatttttg	tcataaaatt	gtttggtttg	60
gtttaaactc	tgtgtataat	tgaggaaag	gaaacagttc	atgagctttt	cggcacaaga	120
gtagcgggtgc	tagctggaga	tttcatgttt	gctcaagcgt	catggtactt	agcaaattctc	180
gagaatcttg	aagttattaa	gctcatcagt	cagggtactta	gttactctta	cattgttttt	240
ctatgaggtt	gagctatgaa	tctcatttcg	ttgaataatg	ctgtgcctca	aacttttttt	300
catgttttca	ggtgatcaaa	gactttgcaa	gcgagagat	aaagcaggcg	tccagcttat	360
ttgactgcga	caccaagctc	gacgagtact	tactcaaaag	tttctacaag	acagcctctt	420
tagtggctgc	gagcaccaaa	ggagctgcca	ttttcagcag	agttgagcct	gatgtgacag	480
aacaaatgta	cgagtttggg	aagaatctcg	gtctctcttt	ccagatagtt	gatgatattt	540
tggatttcac	tcagtcgaca	gagcagctcg	ggaagccagc	agggagtgat	ttggctaaag	600
gtaacttaac	agcacctgtg	attttcgctc	tggaaggga	gccaaaggcta	agagagatca	660
ttgagtcaaa	gttctgtgag	gcgggttctc	tggaagaagc	gattgaagcg	gtgacaaaag	720
gtggggggat	taagagagca	c				741

<210> 15
 <211> 1087
 <212> DNA
 <213> Arabidopsis sp.

<400> 15

cctcttcagc	caatccagag	gaagaagaga	caacttttta	tctttcgtca	agagtctccg	60
aaaacgcacg	gttttatgct	ctctcttctg	ccctcacctc	acaagacgca	gggcacatga	120
ttcaaccaga	gggaaaaagc	aacgataaca	actctgcttt	tgatttcaag	ctgtatatga	180
tccgcaaagc	cgagtctgta	aatgcggctc	tcgacgtttc	cgtaccgctt	ctgaaacccc	240
ttacgatcca	agaagcgggtc	aggtactctt	tgctagccgg	cggaaaacgt	gtgagggcctc	300
tgctctgcat	tgccgcttgt	gagcttgtgg	ggggcgacga	ggctactgcc	atgtcagccg	360
cttgccgggt	cgagatgato	cacacaagct	ctctcattca	tgacgatctt	ccgtgcatgg	420
acaatgccga	cctccgtaga	ggcaagccca	ccaatcacaa	ggtatgttgt	ttaattatat	480
gaaggctcag	agataatgct	gaactagtgt	tgaaccaatt	tttgcacaaa	caaggtatat	540
ggagaagaca	tggcggtttt	ggcaggtgat	gcactccttg	cattggcggt	tgagcacatg	600
acggttgtgt	cgagtgggtt	ggtcgctccc	gagaagatga	ttcgcgccgt	ggttgagctg	660
gccagggcca	tagggactac	agggctagtt	gctggacaaa	tgatagacct	agccagcgaa	720
agactgaatc	cagacaaggt	tggattggag	catctagagt	tcattccatct	ccacaaaacg	780
gcggcattgt	tggaggcagc	ggcagtttta	ggggttataa	tgggaggtgg	aacagaggaa	840
gaaatcgaaa	agcttagaaa	gtatgctagg	tgtattggac	tactgtttca	ggttggtgat	900
gacattctcg	acgtaacaaa	atctactgag	gaattgggta	agacagccgg	aaaagacgta	960
atggccggaa	agctgacgta	tccaaggctg	ataggtttgg	agggatccag	ggaagttgca	1020
gagcacctga	ggagagaagc	agaggaaaaag	cttaaagggt	ttgatccaag	tcaggcggcg	1080
cctctg						1087

<210> 16
 <211> 1164
 <212> DNA
 <213> Arabidopsis sp.

<400> 16

atgacttcga	ttctcaacac	tgtctccacc	atccaactctt	ccagagttac	ctccgtcgat	60
cgagtcggag	tcctctctct	tcggaattcg	gattccggtg	agttcactcg	cggcggttct	120
ggttttctga	cgttgatcta	cgaatcacc	ggcgaggat	ttgttggtcg	tcggcgagg	180
actgatactg	ataaagttaa	atctcagaca	cctgacaagg	caccagccgg	tggttcaagc	240
attaaccagc	ttctcggtat	caaaggagca	tctcaagaaa	ctaataaatg	gaagattcgt	300
cttcagctta	caaaaccagt	cacttggcct	ccactgggtt	ggggagtcgt	ctgtggtgct	360
gctgcttcag	ggaactttca	ttggacccca	gaggatgttg	ctaagtcgat	tctttgcatg	420
atgatgtctg	gtccttgtct	tactggctat	acacagacaa	tcaacgactg	gtatgataga	480
gatatcgacg	caattaatga	gccatatcgt	ccaattccat	ctggagcaat	atcagagcca	540
gaggttatta	cacaagtctg	ggtgctatta	ttgggaggtc	ttggtattgc	tggaatatta	600

gatgtgtggg	cagggcatac	cactcccact	gtcttctatc	ttgctttggg	aggatcattg	660
ctatcttata	tatactctgc	tccacctctt	aagctaaaac	aaaatggatg	ggttggaaat	720
tttgcaattg	gagcaagcta	tattagtttg	ccatgggtggg	ctggccaagc	attgtttggc	780
actcttacgc	cagatgttgt	tgttctaaca	ctcttgtaga	gcatagctgg	gttaggaata	840
gccattgtta	acgacttcaa	aagtgttgaa	ggagatagag	cattaggact	tcagtctctc	900
ccagtagctt	ttggcaccga	aactgcaaaa	tggatatgcg	ttggtgctat	agacattact	960
cagctttctg	ttgccggata	tctattagca	tctgggaaac	cttattatgc	gttggcgttg	1020
gttgctttga	tcattcctca	gattgtgttc	cagtttaaata	actttctcaa	ggaccctgtc	1080
aaatacgacg	tcaagtacca	ggcaagcgcg	cagccattct	tggtgctcgg	aatatttgta	1140
acggcattag	catcgcaaca	ctga				1164

<210> 17
 <211> 387
 <212> PRT
 <213> Arabidopsis sp.

<400> 17

Met	Thr	Ser	Ile	Leu	Asn	Thr	Val	Ser	Thr	Ile	His	Ser	Ser	Arg	Val	
1				5					10						15	
Thr	Ser	Val	Asp	Arg	Val	Gly	Val	Leu	Ser	Leu	Arg	Asn	Ser	Asp	Ser	
		20						25					30			
Val	Glu	Phe	Thr	Arg	Arg	Arg	Ser	Gly	Phe	Ser	Thr	Leu	Ile	Tyr	Glu	
		35					40					45				
Ser	Pro	Gly	Arg	Arg	Phe	Val	Val	Arg	Ala	Ala	Glu	Thr	Asp	Thr	Asp	
	50					55					60					
Lys	Val	Lys	Ser	Gln	Thr	Pro	Asp	Lys	Ala	Pro	Ala	Gly	Gly	Ser	Ser	
65				70					75						80	
Ile	Asn	Gln	Leu	Leu	Gly	Ile	Lys	Gly	Ala	Ser	Gln	Glu	Thr	Asn	Lys	
			85					90						95		
Trp	Lys	Ile	Arg	Leu	Gln	Leu	Thr	Lys	Pro	Val	Thr	Trp	Pro	Pro	Leu	
		100					105						110			
Val	Trp	Gly	Val	Val	Cys	Gly	Ala	Ala	Ala	Ser	Gly	Asn	Phe	His	Trp	
		115					120					125				
Thr	Pro	Glu	Asp	Val	Ala	Lys	Ser	Ile	Leu	Cys	Met	Met	Met	Ser	Gly	
	130					135					140					
Pro	Cys	Leu	Thr	Gly	Tyr	Thr	Gln	Thr	Ile	Asn	Asp	Trp	Tyr	Asp	Arg	
145				150					155						160	
Asp	Ile	Asp	Ala	Ile	Asn	Glu	Pro	Tyr	Arg	Pro	Ile	Pro	Ser	Gly	Ala	
			165					170						175		
Ile	Ser	Glu	Pro	Glu	Val	Ile	Thr	Gln	Val	Trp	Val	Leu	Leu	Leu	Gly	
		180					185					190				
Gly	Leu	Gly	Ile	Ala	Gly	Ile	Leu	Asp	Val	Trp	Ala	Gly	His	Thr	Thr	
	195						200					205				
Pro	Thr	Val	Phe	Tyr	Leu	Ala	Leu	Gly	Gly	Ser	Leu	Leu	Ser	Tyr	Ile	
	210					215					220					

Tyr Ser Ala Pro Pro Leu Lys Leu Lys Gln Asn Gly Trp Val Gly Asn
 225 230 235 240
 Phe Ala Leu Gly Ala Ser Tyr Ile Ser Leu Pro Trp Trp Ala Gly Gln
 245 250 255
 Ala Leu Phe Gly Thr Leu Thr Pro Asp Val Val Val Leu Thr Leu Leu
 260 265 270
 Tyr Ser Ile Ala Gly Leu Gly Ile Ala Ile Val Asn Asp Phe Lys Ser
 275 280 285
 Val Glu Gly Asp Arg Ala Leu Gly Leu Gln Ser Leu Pro Val Ala Phe
 290 295 300
 Gly Thr Glu Thr Ala Lys Trp Ile Cys Val Gly Ala Ile Asp Ile Thr
 305 310 315 320
 Gln Leu Ser Val Ala Gly Tyr Leu Leu Ala Ser Gly Lys Pro Tyr Tyr
 325 330 335
 Ala Leu Ala Leu Val Ala Leu Ile Ile Pro Gln Ile Val Phe Gln Phe
 340 345 350
 Lys Tyr Phe Leu Lys Asp Pro Val Lys Tyr Asp Val Lys Tyr Gln Ala
 355 360 365
 Ser Ala Gln Pro Phe Leu Val Leu Gly Ile Phe Val Thr Ala Leu Ala
 370 375 380
 Ser Gln His
 385

<210> 18
 <211> 981
 <212> DNA
 <213> Arabidopsis sp.

<400> 18
 atgttggttta gtgggttcagc gatcccattha agcagcttct gctctcttcc ggagaaaccc 60
 cacactcttc ctatgaaact ctctcccgt gcaatccgat cttcatcctc atctgccccg 120
 gggtcgttga acttcgatct gaggacgtat tggacgactc tgatcaccga gatcaaccag 180
 aagctggatg aggccatacc ggtcaagcac cctgcgggga tctacgaggc tatgagatac 240
 tctgtactcg cacaaggcgc caagcgtgcc cctcctgtga tgtgtgtggc ggccctgcgag 300
 ctcttcgggtg gcgatgcct cgccgcttcc cccaccgcct gtgccctaga aatggtgcac 360
 gcggcttcgt tgatacacga cgacctcccc tgtatggacg acgatcctgt gcgcagagga 420
 aagccatcta accacactgt ctacggctct ggcattggcca ttctcgccgg tgacgccctc 480
 ttcccactcg ccttccagca cattgtctcc cacacgcctc ctgaccttgt tccccgagcc 540
 accatcctca gactcatcac tgagattgcc cgcactgtcg gctccactgg tatggctgca 600
 ggccagtagc tgcacctga aggaggtccc tttcctcttt cctttgttca ggagaagaaa 660
 ttcggagcca tgggtgaatg ctctgccgtg tgcgggtggc tattgggagg tgccactgag 720
 gatgagctcc agagtctccg aagggtacgg agagccgtcg ggatgctgta tcaggtggtc 780
 gatgacatca ccgaggacaa gaagaagagc tatgatgggt gagcagagaa gggaatgatg 840
 gaaatggcgg aagagctcaa ggagaaggcg aagaaggagc ttcaagtgt tgacaacaag 900
 tatggaggag gagacacact tgttctcttc tacaccttcg ttgactacgc tgctcatcga 960
 cattttcttc ttcccctctg a 981

<210> 19

<211> 245
<212> DNA
<213> Glycine sp.

<400> 19

gcaacatctg	ggactggggt	tgtcttgggg	agtggtagtg	ctgttgatct	ttcggcactt	60
tcttgcaactt	gcttgggtac	catgatgggt	gctgcatctg	ctaactcttt	gaatcagggtg	120
tttgagatca	ataatgatgc	taaaatgaag	agaacaagtc	gcaggccact	accctcagga	180
cgcatacaca	tacctcatgc	agttggctgg	gcatacctctg	ttggattagc	tggtacggct	240
ctact						245

<210> 20
<211> 253
<212> DNA
<213> Glycine sp.

<400> 20

attggctttc	caagatcatt	gggttttctt	gttgcatcca	tgaccttcta	ctccttgggt	60
ttggcattgt	ccaaggatat	acctgacggt	gaaggagata	aagagcacgg	cattgattct	120
tttgacgtac	gtctaggtca	gaaacgggca	ttttggattt	gcgtttcctt	ttttgaaatg	180
gctttcggag	ttggtatcct	ggccggagca	tcattgctcac	acttttggac	taaaattttc	240
acgggtatgg	gaa					253

<210> 21
<211> 275
<212> DNA
<213> Glycine sp.

<400> 21

tgatcttcta	ctctctgggt	atggcattgt	ccaaggatat	atctgacggt	aaaggagata	60
aagcatacgg	catcgatact	ttagcgatac	gtttgggtca	aaaatgggta	ttttggattt	120
gcattatcct	ttttgaaatg	gcttttggag	ttgccctctt	ggcaggagca	acatcttctt	180
acctttggat	taaaattgtc	acgggtcttg	gacatgctat	tcttgcttca	attctcttgt	240
accaagccaa	atctatatac	ttgagcaaca	aagtt			275

<210> 22
<211> 299
<212> DNA
<213> Glycine sp.

<220>
<221> misc_feature
<222> (1)...(299)
<223> n = A,T,C or G

<400> 22

ccanaatang	tncatcttng	aaagacaatt	ggcctcttca	acacacaagt	ctgcatgtga	60
agaagaggcc	aattgtcttt	ccaagatcac	ttatngtgcc	tattgtaatc	atgaacttct	120
tctttgtggg	tatggcattg	gcaaaggata	tacctanctg	ttgaaggaga	taaaatatat	180
ggcattgata	cttttgcaat	acgtataggt	caaaaacaag	tattttggat	ttgtattttc	240
ctttttgaaa	ggctttcggg	gtttccctag	tggcaggagc	aacatcttct	agccttgggt	299

<210> 23
<211> 767

<212> DNA
<213> Glycine sp.

<400> 23

gtggaggctg	tgggttgctgc	cctgtttatg	aatatttata	ttgttggttt	gaatcaattg	60
tctgatgttg	aaatagacaa	gataaacaag	ccgtatcttc	cattagcatc	tggggaatat	120
tcctttgaaa	ctgggtgtcac	tattgttgca	tctttttcaa	ttctgagttt	ttggcttggc	180
tgggttgtag	gttcatggcc	attatttttg	gccctttttg	taagctttgt	gctaggaact	240
gcttattcaa	tcaatgtgcc	tctgttgaga	tggaagaggt	ttgcagtgct	tgacgcgatg	300
tgcattctag	ctgttcgggc	agtaatagtt	caacttgcat	ttttccttca	catgcagact	360
catgtgtaca	agaggccacc	tgtcttttca	agaccattga	tttttgctac	tgcattcatg	420
agcttcttct	ctgtagtatt	agcactgttt	aaggatatac	ctgacattga	aggagataaa	480
gtatttgcca	tccaatcttt	ttcagtgtgt	ttaggtcaga	agccgggtgt	ctggacttgt	540
gttacccttc	ttgaaatagc	ttatggagtc	gccctcctgg	tgaggagctgc	atctccttgt	600
ctttggagca	aaattttcac	gggtctggga	cacgctgtgc	tggttccaat	tctctggttt	660
catgccaaat	ctgtagattt	gaaaagcaaa	gcttcgataa	catccttcta	tatgtttatt	720
tggaagctat	tttatgcaga	atacttactc	attccttttg	ttagatg		767

<210> 24
<211> 255
<212> PRT
<213> Glycine sp.

<400> 24

Val	Glu	Ala	Val	Val	Ala	Ala	Leu	Phe	Met	Asn	Ile	Tyr	Ile	Val	Gly	
1				5				10						15		
Leu	Asn	Gln	Leu	Ser	Asp	Val	Glu	Ile	Asp	Lys	Ile	Asn	Lys	Pro	Tyr	
		20						25					30			
Leu	Pro	Leu	Ala	Ser	Gly	Glu	Tyr	Ser	Phe	Glu	Thr	Gly	Val	Thr	Ile	
		35					40					45				
Val	Ala	Ser	Phe	Ser	Ile	Leu	Ser	Phe	Trp	Leu	Gly	Trp	Val	Val	Gly	
	50					55					60					
Ser	Trp	Pro	Leu	Phe	Trp	Ala	Leu	Phe	Val	Ser	Phe	Val	Leu	Gly	Thr	
	65				70				75					80		
Ala	Tyr	Ser	Ile	Asn	Val	Pro	Leu	Leu	Arg	Trp	Lys	Arg	Phe	Ala	Val	
				85				90						95		
Leu	Ala	Ala	Met	Cys	Ile	Leu	Ala	Val	Arg	Ala	Val	Ile	Val	Gln	Leu	
			100					105						110		
Ala	Phe	Phe	Leu	His	Met	Gln	Thr	His	Val	Tyr	Lys	Arg	Pro	Pro	Val	
		115					120					125				
Phe	Ser	Arg	Pro	Leu	Ile	Phe	Ala	Thr	Ala	Phe	Met	Ser	Phe	Phe	Ser	
		130				135					140					
Val	Val	Ile	Ala	Leu	Phe	Lys	Asp	Ile	Pro	Asp	Ile	Glu	Gly	Asp	Lys	
	145				150				155					160		
Val	Phe	Gly	Ile	Gln	Ser	Phe	Ser	Val	Cys	Leu	Gly	Gln	Lys	Pro	Val	
				165					170					175		
Phe	Trp	Thr	Cys	Val	Thr	Leu	Leu	Glu	Ile	Ala	Tyr	Gly	Val	Ala	Leu	

180 185 190

Leu Val Gly Ala Ala Ser Pro Cys Leu Trp Ser Lys Ile Phe Thr Gly
195 200 205

Leu Gly His Ala Val Leu Ala Ser Ile Leu Trp Phe His Ala Lys Ser
210 215 220

Val Asp Leu Lys Ser Lys Ala Ser Ile Thr Ser Phe Tyr Met Phe Ile
225 230 235 240

Trp Lys Leu Phe Tyr Ala Glu Tyr Leu Leu Ile Pro Phe Val Arg
245 250 255

<210> 25
<211> 360
<212> DNA
<213> Zea sp.

<220>
<221> misc_feature
<222> (1)...(360)
<223> n = A,T,C or G

<400> 25

ggcgtcttca	cttggttctgg	tcttctcgta	tcccctgatg	aagagggttca	cattttggcc	60
tcaggcttat	cttggcctga	cattcaactg	gggagcttta	ctaggggtggg	ctgctattaa	120
ggaaagcata	gaccctgcaa	atcatccttc	cattgtatac	agctgggtatt	tggtggacgc	180
tggtgtatga	tactatata	gcgcatacagg	tgtttcgcta	tccctacttt	catattaatc	240
cttgatgaag	tggccatttc	atggtgtcgc	ggtggtctta	tacttgcata	tctccatgca	300
tctcaggaca	aagangatga	cctgaaagta	ggagtccaag	tccacagctt	aagatttggg	360

<210> 26
<211> 299
<212> DNA
<213> Zea sp.

<220>
<221> misc_feature
<222> (1)...(299)
<223> n = A,T,C or G

<400> 26

gatgggttga	gcatctgcaa	ataccctcaa	ccagggtgtt	gngataaaaa	atgatgctaa	60
aatgaaaagg	acaatgcgtg	ccccctgcca	tctggtcgca	ttagtcctgc	acatgctgcg	120
atgtgggcta	caagtgttgg	agttgcagga	acagctttgt	tggcctggaa	ggctaattggc	180
ttggcagctg	ggcttgacgc	ttctaattct	gttctgtatg	catttggtga	tacgccgttg	240
aagcaaatac	accctgttaa	tacatgggtt	ggggcagtcg	ttggtgccat	cccaccact	299

<210> 27
<211> 255
<212> DNA
<213> Zea sp.

<220>
<221> misc_feature
<222> (1)...(255)

<223> n = A,T,C or G

<400> 27

anacttgcat	atctccatgc	ntctcaggac	aaagangatg	acctgaaagt	aggtgtcaag	60
tccacagcat	taagatttgg	agatttgacc	nnatactgna	tcagtggctt	tggcgcgga	120
tgcttcggca	gcttagcact	cagtggttac	aatgctgacc	ttggttggtg	tttagtgtga	180
tgcttgagcg	aagaatggta	tngtttttac	ttgatattga	ctccagacct	gaaatcatgt	240
tggaacagggt	ggccc					255

<210> 28

<211> 257

<212> DNA

<213> Zea sp.

<400> 28

attgaagggg	ataggactct	ggggcttcag	tcacttcctg	ttgcttttgg	gatggaaact	60
gcaaaatgga	tttgtgttgg	agcaattgat	atcactcaat	tatctgttgc	aggttaccta	120
ttgagcaccg	gtaagctgta	ttatgccctg	gtgttgcttg	ggctaacaat	tcctcagggtg	180
ttctttcagt	tccagtactt	cctgaaggac	cctgtgaagt	atgatgtcaa	atatacaggca	240
agcgacacaac	cattctt					257

<210> 29

<211> 368

<212> DNA

<213> Zea sp.

<400> 29

atccagttgc	aaataataat	ggcgttcttc	tctgttgtaa	tagcactatt	caaggatata	60
cctgacatcg	aaggggaccg	catattcggg	atccgatacct	tcagcggtccg	gttagggcaa	120
aagaaggtct	tttgatctg	cgttggcttg	cttgagatgg	cctacagcgt	tgcgatactg	180
atgggagcta	cctcttcctg	tttgtggagc	aaaacagcaa	ccatcgctgg	ccattccata	240
cttgccgcga	tcctatggag	ctgcgcgcga	tcggtggact	tgacgagcaa	agccgcaata	300
acgtccttct	acatgttcat	ctggaagctg	ttctacgcgg	agtacctgct	catccctctg	360
gtgcgggtg						368

<210> 30

<211> 122

<212> PRT

<213> Zea sp.

<400> 30

Ile	Gln	Leu	Gln	Ile	Ile	Met	Ala	Phe	Phe	Ser	Val	Val	Ile	Ala	Leu
1				5					10					15	
Phe	Lys	Asp	Ile	Pro	Asp	Ile	Glu	Gly	Asp	Arg	Ile	Phe	Gly	Ile	Arg
			20					25					30		
Ser	Phe	Ser	Val	Arg	Leu	Gly	Gln	Lys	Lys	Val	Phe	Trp	Ile	Cys	Val
		35				40					45				
Gly	Leu	Leu	Glu	Met	Ala	Tyr	Ser	Val	Ala	Ile	Leu	Met	Gly	Ala	Thr
	50					55					60				
Ser	Ser	Cys	Leu	Trp	Ser	Lys	Thr	Ala	Thr	Ile	Ala	Gly	His	Ser	Ile

Leu Ser Gly Ile Val Phe Tyr Met Leu Val Tyr Thr His Trp Leu Lys
130 135 140

Arg His Thr Ala Gln Asn Ile Val Ile Gly Gly Ala Ala Gly Ser Ile
145 150 155 160

Pro Pro Leu Val Gly Trp Ala Ala Val Thr Gly Asp Leu Ser Trp Thr
165 170 175

Pro Trp Val Leu Phe Ala Leu Ile Phe Leu Trp Thr Pro Pro His Phe
180 185 190

Trp Ala Leu Ala Leu Met Ile Lys Asp Asp Tyr Ala Gln Val Asn Val
195 200 205

Pro Met Leu Pro Val Ile Ala Gly Glu Glu Lys Thr Val Ser Gln Ile
210 215 220

Trp Tyr Tyr Ser Leu Leu Val Val Pro Phe Ser Leu Leu Leu Val Tyr
225 230 235 240

Pro Leu His Gln Leu Gly Ile Leu Tyr Leu Ala Ile Ala Ile Ile Leu
245 250 255

Gly Gly Gln Phe Leu Val Lys Ala Trp Gln Leu Lys Gln Ala Pro Gly
260 265 270

Asp Arg Asp Leu Ala Arg Gly Leu Phe Lys Phe Ser Ile Phe Tyr Leu
275 280 285

Met Leu Leu Cys Leu Ala Met Val Ile Asp Ser Leu Pro Val Thr His
290 295 300

Gln Leu Val Ala Gln Met Gly Thr Leu Leu Gly
305 310 315

<210> 34

<211> 324

<212> PRT

<213> Synechocystis sp.

<400> 34

Met Ser Asp Thr Gln Asn Thr Gly Gln Asn Gln Ala Lys Ala Arg Gln
1 5 10 15

Leu Leu Gly Met Lys Gly Ala Ala Pro Gly Glu Ser Ser Ile Trp Lys
20 25 30

Ile Arg Leu Gln Leu Met Lys Pro Ile Thr Trp Ile Pro Leu Ile Trp
35 40 45

Gly Val Val Cys Gly Ala Ala Ser Ser Gly Gly Tyr Ile Trp Ser Val
50 55 60

Glu Asp Phe Leu Lys Ala Leu Thr Cys Met Leu Leu Ser Gly Pro Leu
65 70 75 80

Met Thr Gly Tyr Thr Gln Thr Leu Asn Asp Phe Tyr Asp Arg Asp Ile
85 90 95

Asp Ala Ile Asn Glu Pro Tyr Arg Pro Ile Pro Ser Gly Ala Ile Ser
 100 105 110
 Val Pro Gln Val Val Thr Gln Ile Leu Ile Leu Leu Val Ala Gly Ile
 115 120 125
 Gly Val Ala Tyr Gly Leu Asp Val Trp Ala Gln His Asp Phe Pro Ile
 130 135 140
 Met Met Val Leu Thr Leu Gly Gly Ala Phe Val Ala Tyr Ile Tyr Ser
 145 150 155 160
 Ala Pro Pro Leu Lys Leu Lys Gln Asn Gly Trp Leu Gly Asn Tyr Ala
 165 170 175
 Leu Gly Ala Ser Tyr Ile Ala Leu Pro Trp Trp Ala Gly His Ala Leu
 180 185 190
 Phe Gly Thr Leu Asn Pro Thr Ile Met Val Leu Thr Leu Ile Tyr Ser
 195 200 205
 Leu Ala Gly Leu Gly Ile Ala Val Val Asn Asp Phe Lys Ser Val Glu
 210 215 220
 Gly Asp Arg Gln Leu Gly Leu Lys Ser Leu Pro Val Met Phe Gly Ile
 225 230 235 240
 Gly Thr Ala Ala Trp Ile Cys Val Ile Met Ile Asp Val Phe Gln Ala
 245 250 255
 Gly Ile Ala Gly Tyr Leu Ile Tyr Val His Gln Gln Leu Tyr Ala Thr
 260 265 270
 Ile Val Leu Leu Leu Leu Ile Pro Gln Ile Thr Phe Gln Asp Met Tyr
 275 280 285
 Phe Leu Arg Asn Pro Leu Glu Asn Asp Val Lys Tyr Gln Ala Ser Ala
 290 295 300
 Gln Pro Phe Leu Val Phe Gly Met Leu Ala Thr Gly Leu Ala Leu Gly
 305 310 315 320
 His Ala Gly Ile

<210> 35
 <211> 307
 <212> PRT
 <213> Synechocystis sp.
 <400> 35

Met Thr Glu Ser Ser Pro Leu Ala Pro Ser Thr Ala Pro Ala Thr Arg
 1 5 10 15
 Lys Leu Trp Leu Ala Ala Ile Lys Pro Pro Met Tyr Thr Val Ala Val
 20 25 30
 Val Pro Ile Thr Val Gly Ser Ala Val Ala Tyr Gly Leu Thr Gly Gln
 35 40 45

Trp His Gly Asp Val Phe Thr Ile Phe Leu Leu Ser Ala Ile Ala Ile
 50 55 60
 Ile Ala Trp Ile Asn Leu Ser Asn Asp Val Phe Asp Ser Asp Thr Gly
 65 70 75 80
 Ile Asp Val Arg Lys Ala His Ser Val Val Asn Leu Thr Gly Asn Arg
 85 90 95
 Asn Leu Val Phe Leu Ile Ser Asn Phe Phe Leu Leu Ala Gly Val Leu
 100 105 110
 Gly Leu Met Ser Met Ser Trp Arg Ala Gln Asp Trp Thr Val Leu Glu
 115 120 125
 Leu Ile Gly Val Ala Ile Phe Leu Gly Tyr Thr Tyr Gln Gly Pro Pro
 130 135 140
 Phe Arg Leu Gly Tyr Leu Gly Leu Gly Glu Leu Ile Cys Leu Ile Thr
 145 150 155 160
 Phe Gly Pro Leu Ala Ile Ala Ala Ala Tyr Tyr Ser Gln Ser Gln Ser
 165 170 175
 Phe Ser Trp Asn Leu Leu Thr Pro Ser Val Phe Val Gly Ile Ser Thr
 180 185 190
 Ala Ile Ile Leu Phe Cys Ser His Phe His Gln Val Glu Asp Asp Leu
 195 200 205
 Ala Ala Gly Lys Lys Ser Pro Ile Val Arg Leu Gly Thr Lys Leu Gly
 210 215 220
 Ser Gln Val Leu Thr Leu Ser Val Val Ser Leu Tyr Leu Ile Thr Ala
 225 230 235 240
 Ile Gly Val Leu Cys His Gln Ala Pro Trp Gln Thr Leu Leu Ile Ile
 245 250 255
 Ala Ser Leu Pro Trp Ala Val Gln Leu Ile Arg His Val Gly Gln Tyr
 260 265 270
 His Asp Gln Pro Glu Gln Val Ser Asn Cys Lys Phe Ile Ala Val Asn
 275 285
 Leu His Phe Phe Ser Gly Met Leu Met Ala Ala Gly Tyr Gly Trp Ala
 290 295 300
 Gly Leu Gly
 305

<210> 36
 <211> 927
 <212> DNA
 <213> Synechocystis sp.

<400> 36

atggcaacta tccaagcttt ttggcgcttc tcccgcctcc ataccatcat tgggtacaact 60

ctgagcgtct	gggctgtgta	tctgttaact	attctcgggg	atggaaactc	agttaactcc	120
cctgcttccc	tggatttagt	gttcggcgct	tggctggcct	gcctgttggg	taatgtgtac	180
attgtcggcc	tcaaccaatt	gtgggatgtg	gacattgacc	gcatcaataa	gccgaatttg	240
cccctagcta	acggagattt	ttctatcgcc	cagggccggt	ggattgtggg	actttgtggc	300
gttgcttcct	tggcgatcgc	ctggggatta	gggctatggc	tggggctaac	ggtgggcatt	360
agtttgatta	ttggcacggc	ctattcgggt	ccgccagtga	ggttaaagcg	cttttccttg	420
ctggcggccc	tgtgtattct	gacggtgcgg	ggaattgtgg	ttaacttggg	cttattttta	480
tttttttagaa	ttggtttagg	ttatccccc	actttaataa	cccccattctg	ggttttgact	540
ttatttatct	tagttttcac	cgtggcgatc	gccattttta	aagatgtgcc	agatatggaa	600
ggcgatcggc	aatttaagat	tcaaacttta	actttgcaaa	tcggcaaaca	aaacgttttt	660
cggggaacct	taattttact	cactggttgt	tatttagcca	tggcaatctg	gggcttatgg	720
gcggctatgc	ctttaaatac	tgctttcttg	attgtttccc	atttgtgctt	attagcctta	780
ctctggtggc	ggagtcgaga	tgtacactta	gaaagcaaaa	ccgaaattgc	tagtttttat	840
cagtttattt	ggaagctatt	tttcttagag	tacttgctgt	atcccttggc	tctgtggtta	900
cctaattttt	ctaatactat	tttttag				927

<210> 37
 <211> 308
 <212> PRT
 <213> *Synechocystis* sp.

<400> 37

Met	Ala	Thr	Ile	Gln	Ala	Phe	Trp	Arg	Phe	Ser	Arg	Pro	His	Thr	Ile	
1				5					10					15		
Ile	Gly	Thr	Thr	Leu	Ser	Val	Trp	Ala	Val	Tyr	Leu	Leu	Thr	Ile	Leu	
			20					25					30			
Gly	Asp	Gly	Asn	Ser	Val	Asn	Ser	Pro	Ala	Ser	Leu	Asp	Leu	Val	Phe	
	35					40					45					
Gly	Ala	Trp	Leu	Ala	Cys	Leu	Leu	Gly	Asn	Val	Tyr	Ile	Val	Gly	Leu	
	50					55					60					
Asn	Gln	Leu	Trp	Asp	Val	Asp	Ile	Asp	Arg	Ile	Asn	Lys	Pro	Asn	Leu	
65				70					75					80		
Pro	Leu	Ala	Asn	Gly	Asp	Phe	Ser	Ile	Ala	Gln	Gly	Arg	Trp	Ile	Val	
			85					90						95		
Gly	Leu	Cys	Gly	Val	Ala	Ser	Leu	Ala	Ile	Ala	Trp	Gly	Leu	Gly	Leu	
		100						105					110			
Trp	Leu	Gly	Leu	Thr	Val	Gly	Ile	Ser	Leu	Ile	Ile	Gly	Thr	Ala	Tyr	
		115					120					125				
Ser	Val	Pro	Pro	Val	Arg	Leu	Lys	Arg	Phe	Ser	Leu	Leu	Ala	Ala	Leu	
	130					135					140					
Cys	Ile	Leu	Thr	Val	Arg	Gly	Ile	Val	Val	Asn	Leu	Gly	Leu	Phe	Leu	
145				150						155				160		
Phe	Phe	Arg	Ile	Gly	Leu	Gly	Tyr	Pro	Pro	Thr	Leu	Ile	Thr	Pro	Ile	
			165					170					175			
Trp	Val	Leu	Thr	Leu	Phe	Ile	Leu	Val	Phe	Thr	Val	Ala	Ile	Ala	Ile	
		180					185						190			
Phe	Lys	Asp	Val	Pro	Asp	Met	Glu	Gly	Asp	Arg	Gln	Phe	Lys	Ile	Gln	

195 200 205

Thr Leu Thr Leu Gln Ile Gly Lys Gln Asn Val Phe Arg Gly Thr Leu
210 215 220

Ile Leu Leu Thr Gly Cys Tyr Leu Ala Met Ala Ile Trp Gly Leu Trp
225 230 235 240

Ala Ala Met Pro Leu Asn Thr Ala Phe Leu Ile Val Ser His Leu Cys
245 250 255

Leu Leu Ala Leu Leu Trp Trp Arg Ser Arg Asp Val His Leu Glu Ser
260 265 270

Lys Thr Glu Ile Ala Ser Phe Tyr Gln Phe Ile Trp Lys Leu Phe Phe
275 280 285

Leu Glu Tyr Leu Leu Tyr Pro Leu Ala Leu Trp Leu Pro Asn Phe Ser
290 295 300

Asn Thr Ile Phe
305

<210> 38
<211> 1092
<212> DNA
<213> Synechocystis sp.

<400> 38

atgaaatttc	cgccccacag	tggttaccat	tggaaggtc	aatcaccttt	ctttgaaggt	60
tggtacgtgc	gcctgctttt	gccccaatcc	ggggaaagt	ttgcttttat	gtactccatc	120
gaaaatcctg	ctagcgatca	tcattacggc	ggcgggtgctg	tgcaaatttt	agggccggct	180
acgaaaaaac	aagaaaaatca	ggaagaccaa	cttgtttgcc	ggacattttcc	ctcggtaaaa	240
aaattttggg	ccagtcctcg	ccagtttgcc	ctagggcatt	ggggaaaatg	tagggataac	300
aggcaggcga	aaccctact	ctccgaagaa	ttttttgcca	cggccaagga	aggttatcaa	360
atccatcaaa	atcagcacca	aggacaaatc	attcatggcg	atcgccattg	tcgttggcag	420
ttcaccgtag	aaccggaagt	aacttgggg	agtcctaacc	gatttcctcg	ggctacagcg	480
ggttggtctt	cctttttacc	cttgtttgat	cccggttggc	aaattctttt	agcccaaggt	540
agagcgcaag	gctggctgaa	atggcagagg	gaacagtatg	aatttgacca	cgccctagtt	600
tatgccgaaa	aaaattggg	tcactccttt	ccctcccgt	ggttttggt	ccaagcaaat	660
tattttcctg	accatccagg	actgagcgtc	actgccgtg	gcggggaacg	gattgttctt	720
ggtcgccccg	aagaggtagc	tttaattggc	ttacatcacc	aaggtaattt	ttacgaattt	780
ggcccgggcc	atggcacagt	cacttgga	gtagctccct	ggggccgttg	gcaattaaaa	840
gccagcaatg	ataggtattg	ggtcaagttg	tccggaaaaa	cagataaaaa	aggcagttta	900
gtccacactc	ccaccgccc	gggttacaa	ctcaactgcc	gagataccac	taggggctat	960
ttgtatttgc	aattgggattc	tgtgggtcac	ggcctgatag	tgcaagggga	aacggacacc	1020
gcggggctag	aagttggagg	tgattgggg	ttacacagagg	aaaatttgag	caaaaaaaca	1080
gtgccattct	ga					1092

<210> 39
<211> 363
<212> PRT
<213> Synechocystis sp.

<400> 39

Met	Lys	Phe	Pro	Pro	His	Ser	Gly	Tyr	His	Trp	Gln	Gly	Gln	Ser	Pro
1				5					10					15	

Phe Phe Glu Gly Trp Tyr Val Arg Leu Leu Leu Pro Gln Ser Gly Glu
20 25 30
Ser Phe Ala Phe Met Tyr Ser Ile Glu Asn Pro Ala Ser Asp His His
35 40 45
Tyr Gly Gly Gly Ala Val Gln Ile Leu Gly Pro Ala Thr Lys Lys Gln
50 55 60
Glu Asn Gln Glu Asp Gln Leu Val Trp Arg Thr Phe Pro Ser Val Lys
65 70 75 80
Lys Phe Trp Ala Ser Pro Arg Gln Phe Ala Leu Gly His Trp Gly Lys
85 90 95
Cys Arg Asp Asn Arg Gln Ala Lys Pro Leu Leu Ser Glu Glu Phe Phe
100 105 110
Ala Thr Val Lys Glu Gly Tyr Gln Ile His Gln Asn Gln His Gln Gly
115 120 125
Gln Ile Ile His Gly Asp Arg His Cys Arg Trp Gln Phe Thr Val Glu
130 135 140
Pro Glu Val Thr Trp Gly Ser Pro Asn Arg Phe Pro Arg Ala Thr Ala
145 150 155 160
Gly Trp Leu Ser Phe Leu Pro Leu Phe Asp Pro Gly Trp Gln Ile Leu
165 170 175
Leu Ala Gln Gly Arg Ala His Gly Trp Leu Lys Trp Gln Arg Glu Gln
180 185 190
Tyr Glu Phe Asp His Ala Leu Val Tyr Ala Glu Lys Asn Trp Gly His
195 200 205
Ser Phe Pro Ser Arg Trp Phe Trp Leu Gln Ala Asn Tyr Phe Pro Asp
210 215 220
His Pro Gly Leu Ser Val Thr Ala Ala Gly Gly Glu Arg Ile Val Leu
225 230 235 240
Gly Arg Pro Glu Glu Val Ala Leu Ile Gly Leu His His Gln Gly Asn
245 250 255
Phe Tyr Glu Phe Gly Pro Gly His Gly Thr Val Thr Trp Gln Val Ala
260 265 270
Pro Trp Gly Arg Trp Gln Leu Lys Ala Ser Asn Asp Arg Tyr Trp Val
275 280 285
Lys Leu Ser Gly Lys Thr Asp Lys Lys Gly Ser Leu Val His Thr Pro
290 295 300
Thr Ala Gln Gly Leu Gln Leu Asn Cys Arg Asp Thr Thr Arg Gly Tyr
305 310 315 320
Leu Tyr Leu Gln Leu Gly Ser Val Gly His Gly Leu Ile Val Gln Gly
325 330 335

Glu Thr Asp Thr Ala Gly Leu Glu Val Gly Gly Asp Trp Gly Leu Thr
340 345 350

Glu Glu Asn Leu Ser Lys Lys Thr Val Pro Phe
355 360

<210> 40
<211> 56
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide adapter

<400> 40

cgcgatttaa atggcgcgcc ctgcaggcgg ccgcctgcag ggcgcgcat ttaaatt 56

<210> 41
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 41

tcgaggatcc gcggcgcaa gcttcctgca gg 32

<210> 42
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 42

tcgacctgca ggaagcttgc ggccgcggat cc 32

<210> 43
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 43

tcgacctgca ggaagcttgc ggccgcggat cc 32

<210> 44
<211> 32

<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 44

tcgaggatcc gcggccgcaa gcttcctgca gg

32

<210> 45
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 45

tcgaggatcc gcggccgcaa gcttcctgca ggagct

36

<210> 46
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 46

cctgcaggaa gcttgcggcc gcggatcc

28

<210> 47
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 47

tcgacctgca ggaagcttgc ggccgcggat ccagct

36

<210> 48
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 48

ggatccgcgg ccgcaagctt cctgcagg

28

<210> 49
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 49

gatcacctgc aggaagcttg cggccgcgga tccaatgca

39

<210> 50
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<400> 50

ttggatccgc ggccgcaagc ttcctgcagg t

31

<210> 51
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotides

<400> 51

ggatccgcgg ccgcacaatg gagtctctgc tctctagttc t

41

<210> 52
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotides

<400> 52

ggatcctgca ggtcacttca aaaaaggtaa cagcaagt

38

<210> 53
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Oligonucleotides

<400> 53

ggatccgcgg ccgcacaatg gcgttttttg ggctctcccg tgttt

45

<210> 54

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotides

<400> 54

ggatcctgca ggttattgaa aacttcttcc aagtacaact

40

<210> 55

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotides

<400> 55

ggatccgcgg ccgcacaatg tggcgaagat ctgttggt

38

<210> 56

<211> 37

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotides

<400> 56

ggatcctgca ggatcatggag agtagaagga aggagct

37

<210> 57

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotides

<400> 57

ggatccgcgg ccgcacaatg gtacttgccg aggttcctctct

50

<210> 58

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotides

<400> 58

ggatcctgca ggtcacttgt ttctggtgat gactctat

38

<210> 59

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotides

<400> 59

ggatccgagg ccgcacaatg acttcgattc tcaacact

38

<210> 60

<211> 36

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotides

<400> 60

ggatcctgca ggtcagtggt gcgatgctaa tgccgt

36

<210> 61

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Region of slr1736 open reading frame

<400> 61

taatgtgtac attgtcggcc tc

22

<210> 62

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Region of slr1736 open reading frame

<400> 62

gcaatgtaac atcagagatt ttgagacaca acgtggcttt ccacaattcc ccgcaccgtc

60

<210> 63
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Region of slr1736 open reading frame

<400> 63

22

aggctaataa gcacaaatgg ga

<210> 64
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> Region of slr1736 open reading frame

<400> 64

ggtatgagtc agcaacacct tcttcacgag gcagacctca gcggaattgg ttagggttat 60
ccc 63

<210> 65
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 65

26

ggatccatgg ttgcccaaac cccatc

<210> 66
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 66

gcaatgtaac atcagagatt ttgagacaca acgtggcttt gggtaagcaa caatgaccgg 60
c 61

<210> 67
<211> 25
<212> DNA
<213> Artificial Sequence

<220>

<223> Oligonucleotide primer

<400> 67

25

gaattctcaa agccagccca gtaac

<210> 68

<211> 63

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer

<400> 68

ggtatgagtc agcaacacct tcttcacgag gcagacctca gcgggtgcga aaagggtttt 60
ccc 63

<210> 69

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> End of open reading frame fragment

<400> 69

23

ccagtggttt aggctgtgtg gtc

<210> 70

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> End of open reading frame fragment

<400> 70

21

ctgagttgga tgtattggat c

<210> 71

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 71

28

ggatccatgg ttacttcgac aaaaatcc

<210> 72

<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 72

gcaatgtaac atcagagatt ttgagacaca acgtggcttt gctaggcaac cgcttagtac 60

<210> 73
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 73

gaattcttaa cccaacagta aagttccc 28

<210> 74
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 74

ggtatgagtc agcaacacct tcttcacgag gcagacctca gcgccggcat tgtcttttac 60
atg 63

<210> 75
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Open reading frame fragment

<400> 75

ggaacccttg cagccgcttc 20

<210> 76
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Open reading frame fragment

<400> 76

gtatgcccaa ctggtgcaga gg

22

<210> 77

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 77

ggatccatgt ctgacacaca aaataccg

28

<210> 78

<211> 62

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 78

gcaatgtaac atcagagatt ttgagacaca acgtggcttt cgccaatacc agccaccaac
ag

60
62

<210> 79

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide primer

<400> 79

gaattctcaa atccccgcat ggcctag

27

<210> 80

<211> 65

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide primer

<400> 80

ggtatgagtc agcaacacct tcttcacgag gcagacctca gcggcctacg gcttggacgt
gtggg

60
65

<210> 81

<211> 21

<212> DNA

<213> Artificial Sequence

<220>
<223> Open reading frame fragment

<400> 81

21

cacttggtt cccctgatct g

<210> 82
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Open reading frame fragment

<400> 82

21

gcaatacccg cttggaaaac g

<210> 83
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 83

29

ggatccatga ccgaatcttc gcccttagc

<210> 84
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 84

gcaatgtaac atcagagatt ttgagacaca acgtggcttt caatcctagg tagccgaggc 60
g 61

<210> 85
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer

<400> 85

27

gaattcttag cccaggccag cccagcc

<210> 86
<211> 66
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide primer

<400> 86

ggtatgagtc agcaacacct tcttcacgag gcagacctca gcggggaatt gatttgttta 60
attacc 66

<210> 87
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Open reading frame fragment

<400> 87

gcgatcgcca ttatcgcttg g 21

<210> 88
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Open reading frame fragment

<400> 88

gcagactggc aattatcagt aacg 24

<210> 89
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 89

ccatggattc gagtaaagtt gtcgc 25

<210> 90
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 90

gaattcactt caaaaaaggt aacag

<210> 91
 <211> 4550
 <212> DNA
 <213> Arabidopsis sp.

<400> 91

attttacacc	aatttgatca	cttaactaaa	ttaattaaat	tagatgatta	tcccaccata	60
tttttgagca	ttaaaccata	aaaccatagt	tataagtaac	tgttttaatc	gaatatgact	120
cgattaaagat	taggaaaaat	ttataaccgg	taattaagaa	aacattaacc	gtagtaaccg	180
taaatgccga	ttcctccctt	gtctaaaaga	cagaaaacat	atattttatt	ttgccccata	240
tgtttcactc	tatttaattt	caggcacaat	acttttggtt	ggtaacaaaa	ctaaaaagga	300
caacacgtga	tacttttcct	cgtcogtcag	tcagattttt	tttaaaactag	aaacaagtgg	360
caaactctaca	ccacattttt	tgcttaatct	attaacttgt	aagtttttaa	ttcctaaaaa	420
agtcctaacta	attcttctaa	tataagtaca	ttccctaaaat	ttcccaaaaa	gtcaaattaa	480
taatttttcaa	aatctaatct	aaatatctaa	taattcaaaa	tcattaaaaa	gacacgcaac	540
aatgacacca	attaatcatc	ctcgacccac	acaattctac	agttctcatg	ctaaaccata	600
ttttttgctc	tctgttcctt	caaaatcatt	tctttctctt	ctttgattcc	caaagatcac	660
ttctttgtct	ttgatttttg	attttttttc	tctctggcgt	gaaggaagaa	gctttatttc	720
atggagtcctc	tgctctctag	ttcttctctt	gtttccgctg	gtaaatctcg	tccttttctg	780
gtttcaggtt	ttatttggtg	tttaggtttc	gtttttgtga	ttcagaacca	tacaaaaagt	840
ttgaactttt	ctgaatataa	aataaggaaa	aagtttcgat	ttttataatg	aattgtttac	900
tagatcgaag	taggtgacaa	aggttattgt	gtggagaagc	ataatttctg	ggcttgactt	960
tgaattttgt	ttctcatgca	tgcaacttat	caatcagctg	gtgggttttg	ttggaagaag	1020
cagaactctaa	agctccactc	tttatcaggt	tcgttagggg	tttatgggtt	tttgaaatta	1080
aataactcaat	catcttagtc	tcattattct	attgggtgaa	tcacattttc	taatttgga	1140
tttatgagac	aatgtatggt	ggacttagtt	gaagttcttc	tctttgggta	tagttgaagt	1200
gttactgatg	ttgtttagct	ctttacacca	atatatacac	ccaattttgc	agaaatccga	1260
gttctgcgtt	gtgattcgag	taaagtgtgc	gcaaaaccga	agtttaggaa	caatcttgtt	1320
aggcctgatg	gtcaaggatc	ttcattgttg	ttgtatccaa	aacataagtc	gagatttcgg	1380
gttaatgccca	ctgcgggtca	gcctgaggct	ttcgactcga	atagcaaaaa	gaagtctttt	1440
agagactcgt	tagatgcgtt	ttacaggttt	tctaggccctc	aaacgcaatc	tgccacagtt	1500
aagtttctct	ttaaaaatgt	aactctttta	tgcttagcat	tttatctgta	ttcaaggaga	1560
taacattagc	tctgtgattg	gatttgcagg	tacttttcac	tggtatcttg	gaggtaatga	1620
cagtagagaa	ggtttctgat	atatctcctt	atacattttt	ttcgtctctc	tgtttaaaaca	1680
atatataaca	cataatgacc	gatgaagaag	gctctcatga	tgaacattta	catagttggg	1740
attgggtttt	gttttcaggc	tggtgttgca	aggttaacat	gcaaattttc	ttcatatgag	1800
ctaaatcagt	tgtctgatgt	tgaatatagat	agtgccctaga	tcattctctat	gtgggttttt	1860
ttcgagagac	tgatgagatt	aatagcagct	atcaggagaa	tattctgtta	acaccggcat	1920
gcagggttaac	aagccctatc	ttccattggc	atgggtgccat	tttcacaaaa	tttcaacttt	1980
tgcaatagta	gcttccttct	ccatcatggt	ttataaatcg	ttatagagtt	tctggcttgg	2040
tagaattcta	taagttactg	aaatagtttg	ggctcttttt	gtgagtttca	tgctcggtac	2100
gtggattggt	ggttcatggc	cattgttctg	caataactaga	atttggttca	aatcaaaatc	2160
tgcatactct	atcaatgtaa	gtaagtctct	ttataaactt	acttctacta	caaacagttg	2220
tgcagtttct	agttttaggt	taatgaggtt	gttgcagcaa	tgtgtatcct	cgctgtccga	2280
ccactttttac	ggtggaaaag	atttgcattg	catatttcagg	tactaaacca	ttttccttat	2340
gctattattg	ttcaaatcgc	cttttatcta	ttatattact	aaagctgtga	aactttgttg	2400
gttttgtagt	tgttttcatc	aaaatcactt	ttcactaggc	ctcttatttt	cgccactgcg	2460
cagacacatg	tgtttggaag	accaatcttg	ttgtttaagg	ttaaacaaga	tggaaaaaga	2520
tttatgagct	ttttctctgt	cgttattgca	tctactgtta	ttgatgagaa	gtttttcttt	2580
ttaaatctat	gtataactta	agtaaagcat	aaggggataa	gatattcgga	atccgatcat	2640
ttggttggat	gcaggatata	cctgatatcg	gatatctaaa	ctaaagaaat	tgttttgact	2700
tctctgtaac	tctgggtcag	aaacgggtac	aaaactgttt	ttgtttcttg	caaaattcag	2760
caagtgttgg	attaagatta	cagaagaaag	atggcttacg	ctgttgcaat	tctagttgga	2820
gtgttttgga	catgtgttac	actacttcaa	atctcggtaa	caatctttct	ttacccatcg	2880
gccacatctc	cattcatatg	gagcaaaagtc	ctggtttcat	ttgttccgt	tctgttgatt	2940
aaaactcgtc	aattcatcgt	ttgagtggta				3000

ttttttcagg	ttgtgggtca	tgttatactc	gcaacaactt	tgtgggctcg	agctaagtc	3060
gttgatctga	gtagcaaac	cgaaataact	tcatgttata	tggtcatatg	gaaggttaga	3120
ttcgtttata	aatagagtct	ttactgcctt	tttatgcgct	ccaatttgga	attaaaaatg	3180
cctttcagtt	tcatcgatc	accattatac	tgataaattc	tcattttctg	atcagctctt	3240
ttatgcagag	tacttgctgt	tacctttttt	gaagtgactg	acattagaag	agaagaagat	3300
ggagataaaa	gaataagtca	tcactatgct	tctgttttta	ttacaagttc	atgaaattag	3360
gtagtgaact	agtgaattag	agttttattc	tgaacatgg	cagactgcaa	aaatatgtca	3420
aagatatgaa	tttctgttgg	gtaaagaagt	ctctgcttgg	gcaaaatctt	aagggttcggt	3480
gtgttgatat	aatgctaagc	gaagaaatcg	attctatgta	gaaatttccg	aaactatgtg	3540
taaacatgtc	agaacatctc	cattctatat	cttcttctgc	aagaaagctc	tgtttttatc	3600
acctaaactc	tttatctctg	tgtagttaag	atatgtatat	gtactgtact	acattttttt	3660
gttgatgtaa	tttgacgaac	gtatggattt	ttgttagaaa	gcatgagttc	gaaagtatat	3720
gtttatatat	atggataatt	cagacctaac	gtcgaagctc	acaagcataa	attcactact	3780
atagtttgct	ctgtaataga	tagttccatt	gatgtcttga	aactgtacgt	aactgcctgg	3840
gcgttttgtg	gttgatactg	actactgagt	gttctttgtg	agtgttgtaa	gtatacaaga	3900
agaagaatat	aggctcacgg	gaacgactgt	ggtggaagat	gaaatggaga	tcacacagta	3960
gcggctttgc	caaagaccga	gtcacgatcg	agtctatgaa	gtctttacag	ctgctgatta	4020
tgattgacca	ttgcttagag	acgcattgga	atcttactag	ggacttgcc	gggagtttct	4080
tcaagtacgt	gtcagatcat	acgatgtagg	agatttcacg	gctttgatgt	gtttgtttgg	4140
agtcacaatg	cttaatgggc	ttattggccc	aataatagct	agctcttttg	ctttagccgt	4200
ttcgtttgtc	ccctgggtgg	gagtattatt	agggtatggt	gtgaccaaag	tcaccagacc	4260
tagagtgaat	ctagttagagt	cctagaccat	ggtccatggc	ttttatttgt	aatttgaaaa	4320
atgaacaatt	ctttttgtaa	ggaaaacttt	tatatagtag	acgtttacta	tatagaaact	4380
agttgaacta	acttcgtgca	attgcataat	aatgggtgtg	aatagagggg	gcaaaactca	4440
ataaacatth	cgacgtacca	agagttcgaa	acaataagca	aaatagattt	ttttgcttca	4500
gactaatttg	tacaatgaat	ggttaataaa	ccattgaagc	ttttattaat		4550

<210> 92

<211> 4450

<212> DNA

<213> Arabidopsis sp.

<400> 92

tttaggttac	aaaatcaatg	atattgcgta	tgatcaactat	aaaagccaaa	agtaaagcct	60
cttggttgac	cagaagggtca	tgatcattgt	atcacatacag	ccaaactacc	tcctggaaga	120
aaagacatgg	atcccaaaca	acaacaatag	cttcttttac	aagaaccagt	agtaactagt	180
cactaatcta	aaagagttaa	gtttcagctt	ttctggcaat	ggctccttga	tcattttcaat	240
cctgaaggag	acccactttg	tagcaagacc	atgtcctctg	tttcacttac	agtgtgtctc	300
aaaagtctac	ttcaattctt	catatatagg	ttctcacac	tacagcttca	tcctcattcg	360
ttgacagaga	gagagtcttt	attgaaaact	tcttccaagt	acaactccac	taaatataat	420
agcaccaaaac	cacttggttcg	acacaaatct	gtacagatat	aaaaacacta	ttaggttttc	480
caaggcaaat	cacataattg	gattgtgaaa	gagtacaaaa	gataaaacca	aattttcata	540
ctttctactg	cagtcagcac	cagatgataa	gtcagctgtc	cctatttgcc	atcctaactg	600
tcctgatgca	gcggccagtg	atgcgtaata	ttgccaccct	taatcattag	agcgagaaac	660
aaaaagaatc	aaaagacagt	aaatggaatt	aggaatcaca	aatgagtcct	tgtaaagttt	720
attgagtacc	gagatctgca	ctgaatccag	aaagtgcagg	aaaacctatg	gatgctgtgc	780
caaattccagt	taaccaaaagc	tttgtattat	caccgaatct	aagggctggt	gacttaacac	840
caactttttac	atcatcttct	ttgtcctgga	gacacaatat	attagacatt	agtccatgga	900
aaaaaaatga	tttaacctag	aatatctcaa	aattacttgc	ataaaaactg	aacttgagct	960
gaaatttttg	gttcgtagct	tgtggcatat	actatttcat	tttcaatggg	ccacaaaggt	1020
aacttttctt	tctcacttct	gttgcaaacg	ggaagacttt	tatggggcta	actcttctact	1080
taaagtatat	aaatcagatg	gaaaaggtgg	gagatcaggg	taattttctt	ctttatgatt	1140
gacaaaagtc	gaacatcgaa	atggatgcat	ttgcatgaga	catgaaacaa	aagctgaaaa	1200
agaaatctgt	ggtggtgaag	ctagaaaaag	aaaacaaaagc	aagcaatatg	cacacattga	1260
gattaactac	tttgctactg	gtcataatca	aatagatttt	gaagctaaaa	aataaaaagt	1320
gaatatacct	gatgtgcata	aatagtatca	taaacaaggg	tccagcagac	tccggagaga	1380
tagagagggg	gtacaataga	tggtgctatg	cttcttttaa	ctgcagtcca	tcctaacaat	1440
gctccccagt	ttatgggtcaa	acctaataag	gcttgaggct	gcaattataa	aaacgaatca	1500
atcataagaa	aatcagaaaa	tatataatgt	ctaactttga	gaagccagaa	tagattttaa	1560

ttacccaaaa	tgtaaacctc	ttcataagt	ggtaggaaaa	gacaagtaac	aaagatgaag	1620
cccctaaaa	acggctgcag	aatatacata	ctgaaatgag	ctcaagtaga	aaagaatttg	1680
atcacaaaa	taaagacaag	acctgagaac	atatcttcag	aatttgggcc	aactacataa	1740
gggtgaacca	tatgtgtatg	tgaattttta	aacaaacact	tgcaaatacg	cgacttttag	1800
gcaagtaaaa	aatccaaaca	aacctgtaat	tgtaaagtgg	gagaagaatc	cctaagccta	1860
aaagcaactg	cagcccgaga	aatccaatcc	cttgaaatgg	tgtcaaaaga	ccactggcga	1920
taggtcttag	ttttgtacga	tcaacctgga	tataaaagaa	atttgaaga	caacataatc	1980
taaaaacaaa	caaccataca	aaatcttgag	ctttacatac	aagcaaccca	tctttgttta	2040
tggaagaatg	aatccagtta	catgaatgct	gtgtatctac	cctaactact	aaacacatat	2100
ttcaatcgaa	aaacatattc	caccttcacc	atatctaaca	cctgaagtct	ttcacttttt	2160
gaacgaagtc	atcagaacat	gcagataagc	tattacccaa	aacagagata	tgactggaaa	2220
tggtgtcgta	aattgatcca	acatagaaaa	atcaagacca	gttcagatg	tcaaagcaat	2280
aacactttcc	caccatggtt	acagaaacca	tagttacaca	aaacatggtt	cctaaaccaa	2340
catactaaag	ggatatataa	atttgacatc	actttatcac	cataccataa	gatagcttaa	2400
aaacaaactg	acctttgtat	ctatgtcctg	atcaagcaga	tcattttatg	tacaaccagc	2460
acctctaaga	agtaatgctc	cgcaacccaa	taaagccata	tattttaaac	ttggaaggct	2520
tccaggatca	gcagccaacg	caatcgacct	atacaacaat	gatggagatt	cagagtatcg	2580
atctatttac	atagctctgg	aactagatcc	atgacgaac	atggaacatc	gttataatat	2640
ctaaagactt	ccaaacagat	tcttgagtaa	gaaacccagt	ggaactatag	tactgtaaca	2700
tatataaaat	caaagaaaac	tcagggttat	agcattatcc	aatcctgatt	tctgccaatc	2760
cttaaccact	ctcccatgct	atcaaaaacc	tcagctcaag	atcatactac	ctaattgcct	2820
atgagctctt	gggaagatca	ttatggattt	gataactgaa	aaaagtaaca	gagaaatagc	2880
agactgcaag	aactactcca	aacttctcca	ctgatatgta	tgtagtctaa	caataataaa	2940
cagacataaa	ttctttttatc	aagcttcaag	agcaagttag	tcagaaaaca	tcacagccaa	3000
accaaccagg	aaaacacata	actttatcac	ataaaactaa	atttaatgta	atctgactta	3060
acataaacca	tcttttgga	cgaaaggaaa	ctatataaac	atgcagtctt	tctttccctc	3120
agctattctt	tcggatggat	tataatgaat	ctcaaaaagt	aaatgtcttg	attctcagct	3180
acattactca	aaggcgaaga	taaacttacc	acatacaagg	ccacgcaagc	aaccaagtct	3240
caatgggttt	atccaatcga	gcaagcttag	cataacctct	aacttcttct	ggtaaataca	3300
aatctatcca	agaagcttcc	ttaacaacaa	caccatcact	cttctcctta	tcactttctt	3360
tcggctttcc	ctccaaaacc	gaagaagacg	acgacattcc	tttactccat	actgtaattcc	3420
aaccaacacc	aaaaaacttc	tcttgatgca	attctcttcc	gtaatgggta	gtcacaggat	3480
tatcattcca	tgaaggataa	cacttagtga	aaggatttgt	agaagatgga	gttacggaga	3540
tggaacaagga	tttatgttgt	gattgcaaaa	gagcagagga	aaaaaacgcc	atctttgaga	3600
cggaagattt	caacaaccgt	cttgaaacac	gggagagccc	acgtaagtga	attcttacga	3660
gaaattgttg	cctggaagaa	acaaagactt	gagatttcaa	tcaaaaacaa	acaaaactat	3720
acgaaaagcta	acttctcaag	agaatcagat	tagtgattcc	acctccatgg	cgtttcta	3780
ctaatttcag	tttcgagtga	tgaagcctta	agaatctaga	gaaagagaag	cggttctaat	3840
ctctcagaga	taatcgaatt	ccttaaacaa	tcaaagctta	cgacgacgcc	aacaacaaca	3900
acaacaaaaa	aatcagatt	aacaaccgac	cagagagcaa	ggatggatcg	ggcgagaaag	3960
agcacgtcgt	ctcgagcaa	gacttcttct	ccagtaaccc	aaaacttggg	ttaatgggcc	4020
tgtagattat	tatatgtggg	ccgaaacaat	tgggtcagca	ccatataatt	ggataatgaa	4080
gaaacacgta	cagtatgcat	ttaggtccca	aattaattgg	tatttctacc	cgaatcagat	4140
aaactaatca	accctacct	tacttatttc	tcactgtttt	taggatcggg	ttagtagttg	4200
aagaaacact	tttattttatc	ttttcgggac	ccaaatttga	taaggttttt	ccattactca	4260
tgagcgtcag	acacatatta	gccttatcag	attagtgggg	atgggcgtgg	ttatttcggt	4320
aagaagcaac	aatcaatgtc	ggagaaatta	aagaatctgc	ataaactaca	cgtgatgata	4380
tgtgcatatg	gagtcagttg	ccgatcatat	ataactattt		tataaagact	4440
actaatagat						4450

<210> 93
 <211> 2850
 <212> DNA
 <213> Arabidopsis sp.

<400> 93					60
aattaaaatt	tgagcggctc	aaaccattag	accgtttaga	gatccctcca	acccaaaata
gtcgattttc	acgtcttgaa	catatatgtg	gccttaatat	gtgtggttag	taaagacttt
tattggtcaa	agaaaaacaa	ccatggccca	acatgttgat	acttttattt	aattatacaa

gtacccctga	attctctgaa	atatatttga	ttgacccaga	tattaatttt	aattatcatt	240
tcctgtaaaa	gtgaaggagt	caccgtgact	cgctcgtaatc	tgaaccaat	ctgttcatat	300
gatgaagaag	tttctctcgt	tctctctcaa	cgcgtagaaa	attctgacgg	cttaacgatg	360
tggcgaagat	ctgttggtta	tcgtttctct	tcaagaatct	ctgtttcttc	ttcgttacca	420
aaccctagac	tgattccttg	gtcccgcgaa	ttatgtgccg	ttaatagctt	ctcccagcct	480
cgggtctcga	cggaatcaac	tgctaagtta	gggatcactg	gtgttagatc	tgatgccaat	540
cgagtttttg	ccactgctac	tgccgcgcgt	acagctacag	ctaccaccgg	tgagatttcg	600
tctagagttg	cggctttggc	tggttagggg	catcactacg	ctcgtttgta	ttgggagctt	660
tctaaagcta	aacttaggta	tgtgtttact	tttcttttct	catgaaaaat	ctgaaaaattt	720
ccaattgttg	gattcttaaa	ttctcatttg	ttttatgggt	gtagtatgct	tgtggttgca	780
acttctggaa	ctgggtatat	tctgggtacg	ggaaatgctg	caattagctt	cccggggctt	840
tgttacacat	gtgcaggaa	catgatgatt	gctgcactcg	ctaattcctt	gaatcaggct	900
attgaaatgt	tgagaagtcc	ataaatttcg	aatccttggt	gtgtttatgt	agttgatctt	960
gcttgcttat	gtttatgtag	ttgaaaagtt	taaaaatttc	taatccttgg	tagttgatct	1020
cgcttggttg	ttttttcatt	ttctagattt	ttgagataag	caatgattct	aagatgaaaa	1080
gaacgatgct	aaggccattg	ccttcaggac	gtattagtgt	tccacacgct	gttgcatggg	1140
ctactattgc	tggtgcttct	ggtgcttggt	tggtggccag	caagggtgaat	gtttgttttt	1200
ttatatgtga	tttctttggt	ttatgaatgg	gtgattgaga	gattatggat	ctaaactttt	1260
gcttccacga	caaggttatt	gcagactaat	atgttggtcg	ctggacttgc	atctgccaat	1320
cttgactttt	atgcgtttgt	ttatactcgc	ttgaagcaac	ttcaccctat	caatacatgg	1380
gttggcgctg	ttgttggtgc	tatccccacc	ttgcttgggt	aaatttttgt	tccttttctt	1440
ctttatttta	gcagattctg	ttttgttgga	tactgctttt	aattcaaaat	gtagtcatgg	1500
ttcaccaatt	ctatgcttat	ctattttgtg	tggtgtcagg	tgggcggcag	cgctcgtgca	1560
gatttcatac	aattcgatga	ttcttccagc	tgctctttac	ttttggcaga	tacctcattt	1620
tatggccctt	gcacatctct	gccgcaatga	ttatgcagct	ggagggttaag	accatatggt	1680
gtcatatgag	attagaatgt	ctccttccat	gtagtggtga	tcttgaacta	gttcaatttc	1740
gtggaatgat	cagagtgtcc	tagatagtgt	cacagcagtc	gacattttag	tggctagata	1800
atgagttcct	tccgttagag	ataaacattc	gcgaacattg	tttccagctt	ccgcgacca	1860
acttctgatt	ttgtttcctg	gtaccttggt	ttcagttaca	agatgttgct	actccttgat	1920
ccgtcagggg	agagaatagc	agcagtggct	ctaaggaact	gcttttacat	gatccctctc	1980
ggtttcatcg	cctatgactg	tgagtcttgt	agattcatct	tttttttgta	gtttattgac	2040
tgcatgtctg	tatctgattt	ttgctgttcc	ttccaatttt	tgtgacaggg	gggttaacct	2100
caagttgggt	ttgcctcgaa	tcaacacttc	tcacactagc	aatcgctgca	acagcatttt	2160
cattctaccg	agaccggacc	atgcataaag	caaggaaaat	gttccatgcc	agtcttctct	2220
tccttccctg	tttcatgtct	ggtcttcttc	tacaccgtgt	ctctaattgat	aatcagcaac	2280
aactcgtaga	agaagccgga	ttacaaaatt	ctgtatctgg	tgaagtcaaa	actcagaggc	2340
gaaagaaacg	tgtggctcaa	cctccgggtg	cttatgcctc	tgctgcaccg	tttcccttcc	2400
tcccagctcc	ttccttctac	tctccatgat	aacctttaag	caagctattg	aatttttgga	2460
aacagaaatt	aaaaaaaaaa	tctgaaaagt	tcttaagttt	aatctttggt	taataatgaa	2520
gtggagaacg	catacaagtt	tatgtatttt	ttctcatctc	cacataattg	tattttttct	2580
ctaagtatgt	ttcaaatgat	acaaaataca	tactttatca	attatctgat	caaattgatg	2640
aatttttgag	ctttgacgtg	ttaggtctat	ctaataaacg	tagtaacgaa	tttggttttg	2700
gaaatgaaat	ccgataaccg	atgatgggtg	agagttaaac	gattaaaccg	gggtgggttaa	2760
aggtctcgag	tctcgacggc	tgcggaatc	ggaaaatcac	gattgaggac	tttgagctgc	2820
cacgaagatg	gcgatgaggt	tgaaatcaat				2850

<210> 94
 <211> 3660
 <212> DNA
 <213> Arabidopsis sp.

<400> 94

tatttgtatt	tttattgtta	aattttatga	tttcacccgg	tatatatcat	cccatattaa	60
tattagattt	attttttggg	ctttatattg	gttttctgatt	taaactgggc	ccattctgct	120
tcaatgaaac	cctaattggg	tttgttttgg	ctttggattt	aaaccgggcc	cattctgctt	180
caatgaagg	cctttgtcca	acaaaactaa	catccgacac	aactagtatt	gccaagagga	240
tcgtgccaca	tggcagttat	tgaatcaaa	gccgccaaaa	ctgtaacgta	gacattactt	300
atctccggta	acggacaacc	actcgtttcc	cgaaacagca	actcacagac	tcacaccact	360
ccagtcctcg	gcttaactac	caccagagac	gattctctct	tccgtcgggt	ctatgacttc	420

gattctcaac	actgtctcca	ccatccactc	ttccagagtt	acctccgctc	atcgagtcgg	480
agtcctctct	cttcggaatt	cggattccgt	tgagttcact	cgccggcggt	ctgggttctc	540
gacgttgatc	tacgaatcac	cggtagttaa	gcattctggt	ggatagattg	atgaatggtt	600
tcttcgattt	tttttttact	gatcttggtg	tgatctcttc	gtagggcgga	gatttggtgt	660
gcggtgcgcg	gagactgata	ctgataaagg	tatgattttt	tagttgtttt	tattttctct	720
ctcttcaaaa	ttctcttttc	aaacactgtg	gcgtttgaat	ttccgacggc	agttaaactc	780
cagacacctg	acaaggcacc	agccgggtgt	tcaagcatta	accagcttct	cggatatcaa	840
ggagcatctc	aagaaactgt	aattttgttc	atctcctcag	aatcttttaa	attatcatat	900
ttgtggataa	tgatgtgtta	gttttaggaat	tttcctacta	aaggtaatct	cttttgagga	960
caagtcttgt	tttttagctta	gaaatgatgt	gaaaatgttg	tttgttagct	aaaaagagtt	1020
tggtgttata	ttctgtattc	agaataaatg	gaagattcgt	cttcagctta	caaaaccagt	1080
cacttgccct	ccactgggtt	ggggagtcgt	ctgtggtgct	gctgcttcag	gtaatcatat	1140
gaacctcttt	tggtatcatgc	aatactgtac	agaaaagttt	ttcattttcc	ttccaattgt	1200
ttcttctggc	agggaaacttt	cattggaccc	cagaggatgt	tgctaagtcg	attctttgca	1260
tgatgatgtc	tggtccttgt	cttactggct	atacacaggt	ctgggtttac	acaacaaaaa	1320
gctgacttgt	tcttattcta	gtgcatttgc	ttggtgtctac	aataacctag	acttgtcgat	1380
ttccagacaa	tcaacgactg	gtatgataga	gatatcgacg	caattaatga	gccatctcgt	1440
ccaattccat	ctggagcaat	atcagagcca	gaggtaactg	agacagaaca	ttgtgagctt	1500
ttatctcttt	tgtgattctg	atttctcctt	actccttaaa	atgcagggtta	ttacacaagt	1560
ctgggtgcta	ttattgggag	gtcttggtat	tgctggaata	ttagatgtgt	gggtaagtgt	1620
gcccttctga	cattaactag	tacagttaaa	gggcacatca	gatttgctaa	aatcttccct	1680
tatcaggcag	ggcataccac	tcccactgtc	ttctatcttg	ctttgggagg	atcattgcta	1740
tcttatatat	actctgctcc	acctcttaag	gtaagtttta	ttcctaactt	ccactctcta	1800
gtgataagac	actccatcca	agttttgagg	ttttgaatat	cgatatctga	actgatctca	1860
ttgcagctaa	aacaaaatgg	atgggttgga	aattttgcac	ttggagcaag	ctatattagt	1920
ttgccatggt	aagatatctc	gtgtatcaat	aatatatggc	gttggtctca	tctcattgat	1980
ttgtttcttg	ctcacttgac	tgataggtgg	gctggccaag	cattgtttgg	cactcttacg	2040
ccagatgttg	ttgttctaac	actcttgtac	agcatagctg	gggtactctt	ttggcaaacc	2100
ttttatgttg	cttttttcgt	tatctgttgt	aatatgctct	tgcttcatgt	tgtacctttg	2160
tgataatgca	gttaggaata	gccattgtta	acgacttcaa	aagtgttgaa	ggagatagag	2220
cattaggact	tcagtctctc	ccagtagctt	ttggcaccga	aactgcaaaa	tggtatgctg	2280
ttggtgctat	agacattact	cagctttctg	ttgccgggat	gtactatcca	ctgtttttgt	2340
gcagctgtgg	cttctatttc	ttttccttga	tcttatcaac	tggtatattc	ccaatggtaa	2400
agcacaaaatt	aatgaagctg	aatcaacaaa	ggcaaaacat	aaaagtacat	tctaataaaa	2460
tgagctaattg	aagaggaggc	atctactttt	atgtttcatt	agtgtgattg	atggattttc	2520
atttcatgct	tctaaaacaa	gtattttcaa	cagtgctatg	aaataacaga	acttatatct	2580
tcattttgtac	ttttactagt	ggatgagtta	cacaatcatt	gttatagaac	caaatcaaag	2640
gtagagatca	tcattagtat	atgtctattt	tggttgacag	atatctatta	gcatctggga	2700
aaccttatta	tgcgttgccg	ttggttgctt	tgatcattcc	tcagattgtg	ttccaggtaa	2760
agacgttaac	agtctcacat	tataattaat	caaattcttg	tactcgtctc	gattgtctaca	2820
ctcgcttcta	taaactgcag	tttaataact	ttctcaagga	ccctgtcaaa	tacgacgtca	2880
agtaccagggt	aagtcaactt	agtacacatg	tttggtgtct	tttgaaatat	ctttgagagg	2940
tctcttaatc	agaagttgct	tgaaacactc	atcttgatta	caggcaagcg	cgcagccatt	3000
cttggtgctc	ggaatatattg	taacggcatt	agcatcgcaa	cactgaaaaa	ggcgattttt	3060
gatgggggtt	tgtcgaaaagc	agaggtgttg	acacatcaaa	tggtgggcaag	tgatggcatc	3120
aactagttta	aaagattttg	taaaatgtat	gtaccgttat	tactagaaac	aactcctgtt	3180
gtatcaattt	agcaaaaacg	ctgagaaaat	gtaattgatg	ttaccgtatt	tgcgctccat	3240
ttttgcattt	cctgctcata	tcgaggattg	gggtttatgt	tagttctgtc	acttctctgc	3300
tttcagaatg	tttttgtttt	ctgtagtggg	ttttaactat	tttcatcact	ttttgtattg	3360
attctaaaca	tgtatccaca	taaaaacagt	aatatacaaa	aatgataact	cctcaaaactt	3420
tttataatct	aaatctaaca	actagctagt	aaccacaacta	acttcatata	attaatttga	3480
gaaactacaa	agactagact	atacatatgt	tatttaacaa	cttgaaactg	tgttattact	3540
acctgatttt	tttctattct	acagccattt	gatatgctgc	aatcttaaca	tatcaagtct	3600
cacgttggtg	gacacaacat	actatcacaa	gtaagacacg	aagtaaaacc	aaccggcaac	3660

<210> 95

<211> 1236

<212> DNA

<213> Glycine sp.

<400> 95

atggattcac	tgctttcttcg	atctttccct	aatattaata	acgcctcttc	tctcaccacc	60
actggtgcaa	atttctccag	gactaaatct	ttcgccaaca	tttaccatgc	aagttcttat	120
gtgccaatg	cttcatggca	caataggaaa	atccaaaaag	aatataat	tttgaggttt	180
cggtggccaa	gtttgaacca	tcattacaaa	ggcattgagg	gagcgtgtac	atgtaaaaaa	240
tgtaatatata	aatttggtgt	gaaagcgacc	tctgaaaaat	ctcttgagtc	tgaacctcaa	300
gcttttgatc	caaaaagcat	tttggactct	gtcaagaatt	ccttggaatgc	tttctacagg	360
ttttccaggc	ctcacacagt	tattggcaca	gcattaagca	taatttctgt	gtctcttctt	420
gctgttgaga	aaatatcaga	tatatctcca	ttatttttta	ctggtgtgtt	ggaggctgtg	480
gttgctgccc	tgtttatgaa	tatttatatt	gttggtttga	atcaattgtc	tgatgttgaa	540
atagacaaga	taaacaagcc	gtatcttcca	ttagcatctg	gggaatattc	ccttgaaact	600
gggtgcacta	ttgttgcatc	tttttcaatt	ctgagttttt	ggccttgctg	gggtgtaggt	660
tcatggccat	tattttgggc	cctttttgta	agctttgtgc	taggaactgc	ttattcaatc	720
aatgtgcctc	tggtgagatg	gaagaggttt	gcagtgcctg	cagcgatgtg	cattctagct	780
gttcgggcag	taatagttca	acttgcattt	ttccttcaca	tgcaactca	tggtgtacaag	840
agggcacctg	tcttttcaag	accattgatt	ttgtctactg	cattcatgag	cttcttctct	900
gtagtataag	cactgtttta	ggatatacct	gacattgaag	gagataaagt	atttggcatc	960
caatcttttt	cagtgcgttt	aggtcagaag	ccggtgttct	ggacttgtgt	tacccttctt	1020
gaaatagctt	atggagtcgc	cctcctgggtg	ggagctgcat	ctccttgtct	ttggagcaaa	1080
attttcacgg	gtctgggaca	cgctgtgctg	gcttcaattc	tctggtttca	tgccaaatct	1140
gtagatttga	aaagcaaagc	ttcgataaca	tccttctata	tggtttattg	gaagctattt	1200
tatgcagaat	acttactcat	tccttttggt	agatga			1236

<210> 96

<211> 1188

<212> DNA

<213> Glycine sp.

<400> 96

atggattcga	tgcttcttcg	atcttttccct	aatattaaca	acgcttcttc	tctcgccacc	60
actggttctt	atttgccaaa	tgcttcatgg	cacaatagga	aaatccaaaa	agaatataat	120
tttttgaggt	ttcggtaggc	aagtttgaac	caccattaca	aaagcattga	aggagggtgt	180
acatgtaaaa	aatgtaatat	aaaatttgtt	gtgaaagcga	cctctgaaaa	atcttttgag	240
tctgaacccc	aagcttttga	tccaaaaagc	atcttggact	ctgtcaagaa	ttccttggat	300
gctttctaca	ggttttccag	acctcacaca	gttattggca	cagcattaag	cataatttct	360
gtgtccctcc	ttgctgttga	gaaaatatca	gatatacttc	cattattttt	tactggtgtg	420
ttggaggctg	tggttgcctg	cctgtttatg	aatatttata	ttgttggttt	gaatcaattg	480
tctgatgttg	aaatagacaa	gataaacaag	ccgtatcttc	cattagcatc	tggggaatat	540
tcctttgaaa	ctggtgtcac	tattgttgca	tctttttcaa	ttctgagttt	ttggcttggc	600
tgggttgtag	gttcatggcc	attatttttg	gccctttttg	taagctttgt	gctaggaact	660
gcttattcaa	tcaatgtgcc	tctgttgaga	tggaagaggt	ttgcagtgct	tgccagcatg	720
tgcatctctag	ctgttcgggc	agtaatagtt	caacttgcac	ttttccttca	catccagact	780
catgtataca	agaggccacc	tgtcttttca	agatcattga	tttttgctac	tgcatcattg	840
agcttcttct	ctgtagttat	agcactgttt	aaggatatac	ctgacattga	aggagataaa	900
gtatttgcca	tccaatcttt	ttcagtgcgt	ttaggtcaga	agccggtatt	ctggacttgt	960
gttatccttc	ttgaaatagc	ttatggagtc	gccctcctgg	tgggagctgc	atctccttgt	1020
ctttggagca	aaattgtcac	gggtctggga	cacgctgttc	tggcttcaat	tctctggttt	1080
catgccaaat	ctgtagattt	gaaaagcaaa	gcttcgataa	catccttcta	tatgtttatt	1140
tgggaagctat	tttatgcaga	atacttactc	attccttttg	ttagatga		1188

<210> 97

<211> 395

<212> PRT

<213> Glycine sp.

<400> 97

Met Asp Ser Met Leu Leu Arg Ser Phe Pro Asn Ile Asn Asn Ala Ser
 1 5 10 15
 Ser Leu Ala Thr Thr Gly Ser Tyr Leu Pro Asn Ala Ser Trp His Asn
 20 25 30
 Arg Lys Ile Gln Lys Glu Tyr Asn Phe Leu Arg Phe Arg Trp Pro Ser
 35 40 45
 Leu Asn His His Tyr Lys Ser Ile Glu Gly Gly Cys Thr Cys Lys Lys
 50 55 60
 Cys Asn Ile Lys Phe Val Val Lys Ala Thr Ser Glu Lys Ser Phe Glu
 65 70 75 80
 Ser Glu Pro Gln Ala Phe Asp Pro Lys Ser Ile Leu Asp Ser Val Lys
 85 90 95
 Asn Ser Leu Asp Ala Phe Tyr Arg Phe Ser Arg Pro His Thr Val Ile
 100 105 110
 Gly Thr Ala Leu Ser Ile Ile Ser Val Ser Leu Leu Ala Val Glu Lys
 115 120 125
 Ile Ser Asp Ile Ser Pro Leu Phe Phe Thr Gly Val Leu Glu Ala Val
 130 135 140
 Val Ala Ala Leu Phe Met Asn Ile Tyr Ile Val Gly Leu Asn Gln Leu
 145 150 155 160
 Ser Asp Val Glu Ile Asp Lys Ile Asn Lys Pro Tyr Leu Pro Leu Ala
 165 170 175
 Ser Gly Glu Tyr Ser Phe Glu Thr Gly Val Thr Ile Val Ala Ser Phe
 180 185 190
 Ser Ile Leu Ser Phe Trp Leu Gly Trp Val Val Gly Ser Trp Pro Leu
 195 200 205
 Phe Trp Ala Leu Phe Val Ser Phe Val Leu Gly Thr Ala Tyr Ser Ile
 210 215 220
 Asn Val Pro Leu Leu Arg Trp Lys Arg Phe Ala Val Leu Ala Ala Met
 225 230 235 240
 Cys Ile Leu Ala Val Arg Ala Val Ile Val Gln Leu Ala Phe Phe Leu
 245 250 255
 His Ile Gln Thr His Val Tyr Lys Arg Pro Pro Val Phe Ser Arg Ser
 260 265 270
 Leu Ile Phe Ala Thr Ala Phe Met Ser Phe Phe Ser Val Val Ile Ala
 275 280 285
 Leu Phe Lys Asp Ile Pro Asp Ile Glu Gly Asp Lys Val Phe Gly Ile
 290 295 300
 Gln Ser Phe Ser Val Arg Leu Gly Gln Lys Pro Val Phe Trp Thr Cys
 305 310 315 320
 Val Ile Leu Leu Glu Ile Ala Tyr Gly Val Ala Leu Leu Val Gly Ala

325 330 335
 Ala Ser Pro Cys Leu Trp Ser Lys Ile Val Thr Gly Leu Gly His Ala
 340 345 350
 Val Leu Ala Ser Ile Leu Trp Phe His Ala Lys Ser Val Asp Leu Lys
 355 360 365
 Ser Lys Ala Ser Ile Thr Ser Phe Tyr Met Phe Ile Trp Lys Leu Phe
 370 375 380
 Tyr Ala Glu Tyr Leu Leu Ile Pro Phe Val Arg
 385 390 395

<210> 98
 <211> 411
 <212> PRT
 <213> Glycine sp.

<400> 98

Met Asp Ser Leu Leu Leu Arg Ser Phe Pro Asn Ile Asn Asn Ala Ser
 1 5 10 15
 Ser Leu Thr Thr Thr Gly Ala Asn Phe Ser Arg Thr Lys Ser Phe Ala
 20 25 30
 Asn Ile Tyr His Ala Ser Ser Tyr Val Pro Asn Ala Ser Trp His Asn
 35 40 45
 Arg Lys Ile Gln Lys Glu Tyr Asn Phe Leu Arg Phe Arg Trp Pro Ser
 50 55 60
 Leu Asn His His Tyr Lys Gly Ile Glu Gly Ala Cys Thr Cys Lys Lys
 65 70 75 80
 Cys Asn Ile Lys Phe Val Val Lys Ala Thr Ser Glu Lys Ser Leu Glu
 85 90 95
 Ser Glu Pro Gln Ala Phe Asp Pro Lys Ser Ile Leu Asp Ser Val Lys
 100 105 110
 Asn Ser Leu Asp Ala Phe Tyr Arg Phe Ser Arg Pro His Thr Val Ile
 115 120 125
 Gly Thr Ala Leu Ser Ile Ile Ser Val Ser Leu Leu Ala Val Glu Lys
 130 135 140
 Ile Ser Asp Ile Ser Pro Leu Phe Phe Thr Gly Val Leu Glu Ala Val
 145 150 155 160
 Val Ala Ala Leu Phe Met Asn Ile Tyr Ile Val Gly Leu Asn Gln Leu
 165 170 175
 Ser Asp Val Glu Ile Asp Lys Ile Asn Lys Pro Tyr Leu Pro Leu Ala
 180 185 190
 Ser Gly Glu Tyr Ser Phe Glu Thr Gly Val Thr Ile Val Ala Ser Phe
 195 200 205

Ser Ile Leu Ser Phe Trp Leu Gly Trp Val Val Gly Ser Trp Pro Leu
 210 215 220
 Phe Trp Ala Leu Phe Val Ser Phe Val Leu Gly Thr Ala Tyr Ser Ile
 225 230 235 240
 Asn Val Pro Leu Leu Arg Trp Lys Arg Phe Ala Val Leu Ala Ala Met
 245 250 255
 Cys Ile Leu Ala Val Arg Ala Val Ile Val Gln Leu Ala Phe Phe Leu
 260 265 270
 His Met Gln Thr His Val Tyr Lys Arg Pro Pro Val Phe Ser Arg Pro
 275 280 285
 Leu Ile Phe Ala Thr Ala Phe Met Ser Phe Phe Ser Val Val Ile Ala
 290 295 300
 Leu Phe Lys Asp Ile Pro Asp Ile Glu Gly Asp Lys Val Phe Gly Ile
 305 310 315 320
 Gln Ser Phe Ser Val Arg Leu Gly Gln Lys Pro Val Phe Trp Thr Cys
 325 330 335
 Val Thr Leu Leu Glu Ile Ala Tyr Gly Val Ala Leu Leu Val Gly Ala
 340 345 350
 Ala Ser Pro Cys Leu Trp Ser Lys Ile Phe Thr Gly Leu Gly His Ala
 355 360 365
 Val Leu Ala Ser Ile Leu Trp Phe His Ala Lys Ser Val Asp Leu Lys
 370 375 380
 Ser Lys Ala Ser Ile Thr Ser Phe Tyr Met Phe Ile Trp Lys Leu Phe
 385 390 395 400
 Tyr Ala Glu Tyr Leu Leu Ile Pro Phe Val Arg
 405 410

<210> 99
 <211> 964
 <212> DNA
 <213> Oryza sp.

<400> 99

gagcagcact	gggtcttaca	ttccaatgga	gctcgctgt	tgctttcatt	acatgcttgc	60
tgactttatt	tgctttggtc	attgctataa	ccaaagatct	cccagatggt	gaaggggatc	120
ggaagtatca	aatatcaact	ttggcgacaa	agctcggtgt	cagaaacatt	gcattttctg	180
gctctggttt	attgatagca	aattatggtg	ctgctattgc	tgtagctttt	ctcatgcctc	240
aggctttcag	gcgcactgta	atggtgcctg	tgcatgctgc	ccttgccggt	ggtataatgt	300
tccagacatg	ggttctggag	caagcaaaat	atactaagga	tgctatttca	cagtactacc	360
ggttcatttg	gaatctcttc	tatgctgaat	acatcttctt	cccgttgata	tagagaccaa	420
gcaatctgat	atggtctgca	tggtgagtcg	ggcaaaaact	agaagcccat	atgaacagtg	480
ggagtagggg	aacgaacatg	ccatccatgg	gaagactctg	ataactctct	ctcgcccggt	540
ctgtaaaggg	taagcactgt	tgggcatata	tatgaaagga	aggtgataaa	gcagggatgc	600
taaattgcta	ctgggatcct	caaaggctta	tagtggtcac	cagtgggaatg	tgctttaata	660
atttggttac	ccagcagagc	aagtttttgc	aggttattag	gtaatatctt	tgagggaatg	720
aacttagatt	tcattgtttt	aaggtctggt	cacacaacgg	gtagtagtgc	tggagcggca	780
aaaaacgacc	ttgttttaca	ctaccaaggg	agggttaactc	tagttttcat	gtgaccactt	840

accttgagag ttgagaccat ggaatcactt gtgcactcct cggcttgtat atttctagtg 900
 tcagcatttg cattctcttc cccacttgta cttgaaaagt tgaagacaac ttttttgttt 960
 gtgt 964

<210> 100
 <211> 421
 <212> DNA
 <213> Triticum sp.

<400> 100
 cgtccgcgga cgcgtgggtg cttattcagt caatctgccg cactttctat ggaagagatc 60
 tgctgttgtt gcagcactct gcatattagc agtgcggtgc gtgatatgtc aactggcatt 120
 ttttctocac attcagacat ttgttttcag aaggccggca gacttttcaa agccattgat 180
 atttgcaact gccttcacga cattcttctc agttgtaata gcattattca aggatatacc 240
 cgatattgaa ggggaccgca tctttggaat ccaatctttt agtggttagc taggtcaaag 300
 caggggtttc tggacttgcg ttggcctact tgaggttgcc tacggtgttg cgatactgag 360
 gggggttaact tcttcagtt tgtggagcaa atctataact gttgtgggcc atgcaatcct 420
 c 421

<210> 101
 <211> 705
 <212> DNA
 <213> Allium porrum

<400> 101
 gtttcccccc ctgcaatttt tttttttttt ttttacttca tttttctgtg aataaattct 60
 taaaaaagac aaagaaaacc actggatata cttaaattcaa cataggctat tgtcattcaa 120
 tgataatctt taacacaaca tacaacatga atataattaa ggagaaatga tctgcaattg 180
 ttgaaagaac tctcgtttt taagatgaca attaaagcgt tgtaattcc agccatttct 240
 gcctocatta tctactcatc ttctcttgcg attcttttcc atgtagggtc taaaccctca 300
 tcttacaaaa ggaatgagca agtactcagc atagaagagc ttccacacga acatataaaa 360
 agatgtaata gtggttttgg tcatttgtcc atgagatcta gcacgattcc aaagtaacga 420
 cccaagaatt gcatgaccta tcaactgttaa gcatttgctc cataggcatg aggaagtagc 480
 tccaacaacc atgacaacag tgtaggccat ctcaaggaga tatatacata tccaaaacac 540
 cctctcctgg ccaaggcgca cgctgaaaga atggatgcca aatattttgt ctccgtctat 600
 atcagggtata tccttaata gagcaataac aactgagaag aagctcatga aggcagttgc 660
 aaatatcaat ggccttgtga aacttgctgg tcttttgaac acaaa 705

<210> 102
 <211> 637
 <212> DNA
 <213> Allium porrum

<220>
 <221> misc_feature
 <222> (1)...(637)
 <223> n = A, T, C, or G

<400> 102
 nattcggcac gagttttgaa gaagttaagc atggactccc tccttaccaa gccagttgta 60
 atacctctgc cttctccagt ttgttcacta ccaatcttgc gaggcagttc tgcaccaggg 120
 cagtattcat gtagaaacta caatccaata agaattcaaa ggtgcctcgt aaattatgaa 180
 catgtgaaac caaggtttac aacatgtagt aggtctcaaa aacttggtca tgtaaaagcc 240
 acatccgagc attctttaga atctggatcc gaaggataca ctccatagaag catatgggaa 300
 gccgtactag cttcactgaa tgttctatac aaattttcac gacctcacac aataataggaa 360

acagcaatgg	gcataatgtc	agtttctttg	cttgttgctg	agagcctatc	cgatatttct	420
cctctgtttt	ttgtgggatt	attagaggct	gtgggttgctg	cattgtttat	gaatgtttac	480
attgtaggtc	tgaatcaatt	atgtgacata	gaaatagaca	aggccaataa	acctgatctt	540
cctcttgcat	ctggagaata	ctcaccaaga	gctgggtactg	ctattgtcat	tgcttcagcc	600
atcatgagct	ttggcattgg	atgggttagtt	ggctctt			637

<210> 103
 <211> 677
 <212> DNA
 <213> *Brassica napus*

<400> 103

tttttttttt	tttttttcaa	aaagaccaat	ccttttagtat	gtacatgaac	aaagtgattt	60
tgtctccaag	ctacaaagaa	gaagaagaga	ggtatacaaa	gaaaactaca	aatgttcacc	120
atgaatgcta	gaagaagggg	aataacagat	actctgcgta	gaagagattc	catataaacc	180
ggtaatatcc	tgctatagct	tcctttgtgt	agtttgcttt	ttctagcacc	catgtctgga	240
aaaccaagca	tgaagccaag	atcatatgtg	caggaatcat	caagctacct	ctaaaaacct	300
gaggcatgta	gaaagctagt	gatatggcag	aaatatagtt	cactagcaga	agtccagaac	360
cgaggaaatgc	aatgttcctc	actccaagct	ttgttgctag	tggtgatatt	tggaacttgc	420
gatctccttc	aacatcagga	agatcttttg	taatagcaat	gactagtgc	aacagtgtca	480
caaaagacgt	gatgaaagcc	acaggtgcac	tccactgaaa	cgaaagtcca	agagcagctc	540
tagtagcatg	gtacacacca	aaattaagaa	gaaaacctcg	taccgtggca	ataataagaa	600
acgctgcaac	tggaatcttc	ttcattctaa	atggtggaac	agaatagatg	gtccccagat	660
cggacgcgtg	ggtcgac					677

<210> 104
 <211> 1431
 <212> DNA
 <213> *Zea sp.*

<400> 104

ccacgcgtcc	gcccggccaa	gggatggacg	cgcttgcct	acggccgtcc	ctcctccccg	60
tgccggcccg	cgccggccgc	ccgcgagatc	attttctacc	accatgttgt	tccatacaac	120
gaaatggtga	aggacgaatt	tgcttttcta	gccaaaggac	ccaaggtcct	accttgcac	180
accatcagaa	attcttcgaa	tggaatcct	cctattgtag	gatatcacat	cggtcattaa	240
atacttctgt	taatgcttcg	gggcaacagc	tgcatctga	acctgaaaca	catgattcta	300
caaccatctg	gagggcaata	tcactcttct	tagatgcatt	ttacagattt	tcccggccac	360
atactgtcat	aggaacagca	ttaagcatag	tctcagtttc	ccttctagct	gtccagagct	420
tgtctgatat	atcacctttg	ttcctcactg	gtttgctgga	ggcagtggta	gctgcccttt	480
tcatgaatat	ctatattgtt	ggactgaacc	agttattcga	cattgagata	gacaaggtta	540
acaagccaac	tcttccattg	gcatctgggg	aatacacccct	tgcaactggg	gttgcaatag	600
tttcgggtctt	tgccgctatg	agctttggcc	ttggatgggc	tggttgatca	caacctctgt	660
tttgggctct	tttcataagc	tttgttcttg	ggactgcata	ttcaatcaat	ctgccgtacc	720
ttcgatggaa	gagatttgct	gttgttgacg	cactgtgcat	attagcagtt	cgtgcagtga	780
ttgttcagct	ggcctttttt	ctccacattc	agacttttgt	tttcaggaga	ccggcagtg	840
tttctaggcc	attattattt	gcaactggat	ttatgacgtt	cttctctgtt	gtaatagcac	900
tattcaagga	tatacctgac	atcgaagggg	accgcatatt	cgggatccga	tccttcagcg	960
tccggttagg	gcaaaagaag	gtcttttgga	tctgcttggt	cttgcttgag	atggcctaca	1020
gcgttgcgat	actgatggga	gctacctctt	cctgtttgtg	gagcaaaaaca	gcaaccatcg	1080
ctggccattc	catacttgcc	gcgatcctat	ggagctgcgc	gcgatcgggtg	gacttgacga	1140
gcaaagccgc	aataacgtcc	ttctacatgt	tcatctggaa	gctgttctac	gcggagtacc	1200
tgctcatccc	tctgggtgcg	tgagcgcgag	gcgaggtggt	ggcagacgga	tcggcgctcg	1260
cggggcgcca	aacaactcca	cgggagaact	tgagtgcg	aagtaaaactc	ccgtttgaaa	1320
gttgaagcgt	gcaccaccg	caccgggcag	agagagacac	ggtggctgga	tggatacggg	1380
tggccccccc	aataaattcc	cccgtgcatg	gtaaaaaaa	aaaaaaaaa	a	1431

<210> 105
 <211> 1870
 <212> DNA
 <213> Zea sp.

<400> 105

gcgcgcgagc	gcgacgagcg	ccacctgctt	gctgccgcgt	gcctgcgtgc	gtgtgcgtcc	60
accactgacc	ccgcgcgccg	ccgcgcgcgc	tgccctcca	ctccacttgc	tcactcgctg	120
cggcccgctt	cccccccggc	caagggatgg	acgcgcttcg	cctacggccg	tccctcctcc	180
ccgtgcggcc	cggcgcggcc	cgcccgcgag	atcattttct	accaccatgt	tgttccatac	240
aacgaaatgg	tgaaggacga	atttgctttt	ctagccaaag	gacccaaggt	cctaccttgc	300
atcaccatca	gaaattcttc	gaatggaaat	cctcctattg	taggatatac	catcggtcat	360
taaatacttc	tgtaaatgct	tcggggcaac	agctgcagtc	tgaacctgaa	acacatgatt	420
ctacaacccat	ctggagggca	atatcatctt	ctctagatgc	attttacaga	ttttcccggc	480
cacatactgt	cataggaaca	gcattaagca	tagtctcagt	ttcccttcta	gctgtccaga	540
gcttgctctga	tatatcacct	ttgttcctca	ctgggttctg	ggaggcagtg	gtagctgccc	600
ttttcatgaa	tatctatatt	gttggaactga	accagttatt	cgacattgag	atagacaagg	660
ttaacaagcc	aactcttcca	ttggcatctg	gggaatacac	ccttgcaact	ggggttgcaa	720
tagtttcggt	ctttgcccgt	atgagctttg	gccttggtg	ggctggttga	tcacaacctc	780
tgttttgggc	tcttttcata	agctttgttc	ttgggactgc	atattcaatc	aatctgccgt	840
accttcgatg	gaagagattt	gctgttggtg	cagcactgtg	catattagca	gttcgtgcag	900
tgattgttca	gctggccttt	tttctccaca	ttcagacttt	tgttttcagg	agaccggcag	960
tgttttctag	gccattatta	tttgcaactg	gatttatgac	gttcttctct	gttgtaatat	1020
cactattcaa	ggatatacct	gacatcgaag	gggaccgcat	attcgggatc	cgatccttca	1080
gcgtccggtt	agggcaaaaag	aaggtctttt	ggatctgcgt	tggtttgctt	gagatggcct	1140
acagcggttg	gatactgatg	ggagctacct	cttctctgtt	gtggagcaaa	acagcaacca	1200
tcgctggcca	ttccataact	gccgcgatcc	tatggagctg	cgccgatcgc	gtggacttga	1260
cgagcaaagc	cgcaataacg	tccttctaca	tgttcatctg	gaagctgttc	tacgcggagt	1320
acctgctcat	ccctctgggt	cggtagcgcg	gaggcgaggt	ggtggcagac	ggatcggcgt	1380
cggcgggggc	gcaaacaaact	ccacgggaga	acttgagtgc	cggaagttaa	ctcccgtttg	1440
aaagttgaag	cgtgcaccac	cggcaccggg	cagagagaga	cacggtggct	ggatggatac	1500
ggatggcccc	cccaataaat	tcccccgctg	atggtacccc	acgctgcttg	atgatatccc	1560
atgtgtccgg	gtgaccggac	ctgatcgtct	ctagagagat	tggttgcaac	acgtccaaca	1620
tagcccgtag	gtattgctac	cactgctagt	atgatactcc	ttcctagtcc	ttgccagcac	1680
cagtgaccca	aacttggtcg	gctgagctca	gcgctcagca	gctttacgtg	catctgcgcc	1740
ttgacttggt	cagtgggcgt	cgctagcatg	aatgatgtat	ggtgcgtcac	ggcctgacgg	1800
ttcgtcagtc	tgggcccgtg	tttgtgtccg	aggaagatcg	tctgtcagag	atctggattg	1860
cctcgctgct						1870

<210> 106
 <211> 642
 <212> DNA
 <213> Zea sp.

<400> 106

cggccggact	ctttctgactt	ggcaaccggc	gcgcagcgcg	acgagcgcca	cctgcttgc	60
gccgcgtgcc	tgctgtcgctg	tgcttccacc	actgaccccg	cgcccccccg	ccgcccctgc	120
ccctccactc	cacttgctca	ctcgtcggtt	cgtcgcggcc	cgcttccccc	ccggccaagg	180
gatggacgcg	cttcgcctac	ggcgtccctt	cctccccgtg	cgccccggcg	cggccccccc	240
gcgaggcagt	ggtagctgcc	cttttcatga	atatctatat	tggtggactg	aaccagttat	300
tcgacattga	gatagacaag	gttaacaagc	caactcttcc	attggcatct	ggggaataca	360
cccttgcaac	tgggggttgca	atagtttcgg	tctttgcccgc	tatgagcttt	ggccttggat	420
gggctgttgg	atcacaacct	ctgttttggg	ctcttttcat	aagctttgtt	cttgggactg	480
catattcaat	caatctgccg	taccttcgat	ggaagagatt	tgctgttgtt	gcagcactgt	540
gcatattagc	agttcgtgca	gtgattgttc	agctggcctt	ttttctccac	attcagactt	600
ttgttttcag	gagaccggca	gtgttttcta	ggccattatt	at		642

<210> 107
 <211> 362
 <212> DNA
 <213> *Gossypium* sp.

<400> 107

cccacgcgtc	cgaacattgt	ttgcacttgt	tattgccata	accaaggatc	ttccagatgt	60
agaaggagat	cgcaaatttc	aaatatcaac	attagcaaca	aagcttggag	ttagaaatat	120
tgcatttctt	ggttccggac	ttctactggg	gaattatgtt	gctgctgtgt	tggtcgcaat	180
atacatgcct	caggctttca	ggcgtagttt	aatgatacct	gctcatatct	ttttggcggt	240
ctgcttgatt	tttcagacat	gggtgttgga	acaagcaaat	tacaaaaagg	aagcaatctc	300
gggttctat	cgtttcatat	ggaatctctt	ctatgcagag	tatgctgatt	ttcccttcgt	360
gt						362

<210> 108
 <211> 575
 <212> DNA
 <213> *Lycopersicon* sp.

<400> 108

cagatcaatt	ccagtttctg	ctgagttttc	tccactcaaa	accagttcac	atgcaatagt	60
acgggttttg	aaatgtaaag	catggaagag	acaaaaaag	cactattcct	cttcaatgaa	120
gttgcagcgg	cagtatatca	cgcaagagca	tggtggagga	agtgatctaa	gcactattgc	180
tgctgataaa	aaacttaaaag	ggagattttt	gggtgcacgca	tcatctgaac	accctcttga	240
atctcaacct	tctaaaagtc	cttgggactc	agttaatgat	gccgtagatg	ctttctacag	300
gttctcgcgg	ccccatacca	taataggaac	agcattgagc	ataatttcag	tttctctcct	360
tgcaagttag	aagttctctg	atttttctcc	attatttttc	actgggtgtg	tagaggccat	420
tggtgctgcc	ctattcatga	acattttacat	agttgggtta	aaccagttgt	ctgacatcga	480
aatagacaag	gtaaacaagc	catatcttcc	attggcatca	ggggaatact	ctgtacaaac	540
tggagtgtg	gttgtgtcgt	cttttgccat	tttga			575

<210> 109
 <211> 1663
 <212> DNA
 <213> *Arabidopsis* sp.

<400> 109

aacaccaaac	acacaatttc	acattctttt	gcataattct	tcttcttctt	ccattatgga	60
gatacggagc	ttgattgttt	ctatgaaccc	taatttatct	tcctttgagc	tctctcgccc	120
tgtatctcct	ctcactcgct	cactagttcc	gttccgatcg	actaaactag	ttccccgctc	180
catttctagg	gggatcccg	cgatctccac	cccgaatagt	gaaactgaca	agatctccgt	240
taaaacctgt	tacgtcccga	cgtctcccaa	tcgcgaactc	cggactcctc	acagtggata	300
ccatttccgat	ggaacacctc	ggaagtctct	cgagggatgg	tggtatccgg	tttccatccc	360
agagaagagg	gagagttttt	gttttatgta	ttctgtggag	aatcctgcat	ttcggcagag	420
tttgtcacca	ttggaagtgg	ctctatatgg	acctagattc	actggtgttg	gagctcagat	480
tcttggcgct	aatgataaat	atttatgcca	atacgaacaa	gactctcaca	atttctgggg	540
agatcgacat	gagctagttt	tggggaatac	ttttagtgtc	gtgccaggcg	caaaggctcc	600
aaacaaggag	gttccaccag	aggaatttaa	cagaagagtg	tccgaagggt	tccaagctac	660
tccattttgg	catcaaggtc	acatttgcca	tgatggccgt	actgactatg	cggaaactgt	720
gaaatctgct	cgttgggagt	atagtactcg	tcccgtttac	ggttgggggt	atgttggggc	780
caaacagaag	tcaactgcag	gctggcctgc	agcttttctc	gtatttgagc	ctcattggca	840
gatatgcatg	gcaggaggcc	tttccacagg	gtggatagaa	tggggcggtg	aaaggtttga	900
gtttcgggat	gcaccttctt	attcagagaa	gaattggggg	ggaggcttcc	caagaaaatg	960
gttttgggtc	cagtgtaatg	tctttgaagg	ggcaactgga	gaagtgtgct	taaccgcagg	1020
tggtgggttg	aggcaattgc	ctggattgac	tgagacctat	gaaaatgctg	cactggtttg	1080
tgtacactat	gatggaaaaa	tgtacagatt	tggttcttgg	aatggtgttg	ttagatggga	1140
aatgtctccc	tgggggtatt	ggtatataac	tgcagagaa	gaaaaccatg	tggtggaact	1200

```

agaggcaaga acaaatgaag cgggtacacc tctgctgtct cctaccacag aagttgggct 1260
agctacggct tgcagagata gttgttacgg tgaattgaag ttgcagatat gggaacggct 1320
atatgatgga agtaaaggca aggtgatatt agagacaaag agctcaatgg cagcagtgga 1380
gataggagga ggaccgtggg ttgggacatg gaaaggagat acgagcaaca cgcccgagct 1440
actaaaacag gctcttcagg tcccattgga tcttgaaagc gccttaggtt tgggtcccttt 1500
cttcaagcca ccgggtctgt aacattgatg agtgttttgt ttgttgatag agacccatgt 1560
gatgaatgaa gccttagtca tgtcattgct agcttcacta ttatgtatgt atgattttag 1620
ttcgttcggg ccttgtggta aatgatacgg gccagtgtaa agt 1663

```

<210> 110
 <211> 488
 <212> PRT
 <213> Arabidopsis sp.

<400> 110

```

Met Glu Ile Arg Ser Leu Ile Val Ser Met Asn Pro Asn Leu Ser Ser
1          5          10          15

Phe Glu Leu Ser Arg Pro Val Ser Pro Leu Thr Arg Ser Leu Val Pro
20          25          30

Phe Arg Ser Thr Lys Leu Val Pro Arg Ser Ile Ser Arg Val Ser Ala
35          40          45

Ser Ile Ser Thr Pro Asn Ser Glu Thr Asp Lys Ile Ser Val Lys Pro
50          55          60

Val Tyr Val Pro Thr Ser Pro Asn Arg Glu Leu Arg Thr Pro His Ser
65          70          75          80

Gly Tyr His Phe Asp Gly Thr Pro Arg Lys Phe Phe Glu Gly Trp Tyr
85          90          95

Phe Arg Val Ser Ile Pro Glu Lys Arg Glu Ser Phe Cys Phe Met Tyr
100         105         110

Ser Val Glu Asn Pro Ala Phe Arg Gln Ser Leu Ser Pro Leu Glu Val
115         120         125

Ala Leu Tyr Gly Pro Arg Phe Thr Gly Val Gly Ala Gln Ile Leu Gly
130         135         140

Ala Asn Asp Lys Tyr Leu Cys Gln Tyr Glu Gln Asp Ser His Asn Phe
145         150         155         160

Trp Gly Asp Arg His Glu Leu Val Leu Gly Asn Thr Phe Ser Ala Val
165         170         175

Pro Gly Ala Lys Ala Pro Asn Lys Glu Val Pro Pro Glu Glu Phe Asn
180         185         190

Arg Arg Val Ser Glu Gly Phe Gln Ala Thr Pro Phe Trp His Gln Gly
195         200         205

His Ile Cys Asp Asp Gly Arg Thr Asp Tyr Ala Glu Thr Val Lys Ser
210         215         220

Ala Arg Trp Glu Tyr Ser Thr Arg Pro Val Tyr Gly Trp Gly Asp Val
225         230         235         240

```

Gly Ala Lys Gln Lys Ser Thr Ala Gly Trp Pro Ala Ala Phe Pro Val
 245 250 255
 Phe Glu Pro His Trp Gln Ile Cys Met Ala Gly Gly Leu Ser Thr Gly
 260 265 270
 Trp Ile Glu Trp Gly Gly Glu Arg Phe Glu Phe Arg Asp Ala Pro Ser
 275 280 285
 Tyr Ser Glu Lys Asn Trp Gly Gly Gly Phe Pro Arg Lys Trp Phe Trp
 290 295 300
 Val Gln Cys Asn Val Phe Glu Gly Ala Thr Gly Glu Val Ala Leu Thr
 305 310 315 320
 Ala Gly Gly Gly Leu Arg Gln Leu Pro Gly Leu Thr Glu Thr Tyr Glu
 325 330 335
 Asn Ala Ala Leu Val Cys Val His Tyr Asp Gly Lys Met Tyr Glu Phe
 340 345 350
 Val Pro Trp Asn Gly Val Val Arg Trp Glu Met Ser Pro Trp Gly Tyr
 355 360 365
 Trp Tyr Ile Thr Ala Glu Asn Glu Asn His Val Val Glu Leu Glu Ala
 370 375 380
 Arg Thr Asn Glu Ala Gly Thr Pro Leu Arg Ala Pro Thr Thr Glu Val
 385 390 395 400
 Gly Leu Ala Thr Ala Cys Arg Asp Ser Cys Tyr Gly Glu Leu Lys Leu
 405 410 415
 Gln Ile Trp Glu Arg Leu Tyr Asp Gly Ser Lys Gly Lys Val Ile Leu
 420 425 430
 Glu Thr Lys Ser Ser Met Ala Ala Val Glu Ile Gly Gly Gly Pro Trp
 435 440 445
 Phe Gly Thr Trp Lys Gly Asp Thr Ser Asn Thr Pro Glu Leu Leu Lys
 450 455 460
 Gln Ala Leu Gln Val Pro Leu Asp Leu Glu Ser Ala Leu Gly Leu Val
 465 470 475 480
 Pro Phe Phe Lys Pro Pro Gly Leu
 485

<210> 111
 <211> 246
 <212> PRT
 <213> Arabidopsis sp.

<400> 111

Met Ser Ser Ser Asn Ala Cys Ala Ser Pro Ser Pro Phe Pro Ala Val
 1 5 10 15
 Thr Lys Leu His Val Asp Ser Val Thr Phe Val Pro Ser Val Lys Ser

20	25	30
Pro Ala Ser Ser Asn Pro Leu Phe Leu Gly Gly Ala Gly Val Arg Gly		
35	40	45
Leu Asp Ile Gln Gly Lys Phe Val Ile Phe Thr Val Ile Gly Val Tyr		
50	55	60
Leu Glu Gly Asn Ala Val Pro Ser Leu Ser Val Lys Trp Lys Gly Lys		
65	70	75
Thr Thr Glu Glu Leu Thr Glu Ser Ile Pro Phe Phe Arg Glu Ile Val		
85	90	95
Thr Gly Ala Phe Glu Lys Phe Ile Lys Val Thr Met Lys Leu Pro Leu		
100	105	110
Thr Gly Gln Gln Tyr Ser Glu Lys Val Thr Glu Asn Cys Val Ala Ile		
115	120	125
Trp Lys Gln Leu Gly Leu Tyr Thr Asp Cys Glu Ala Lys Ala Val Glu		
130	135	140
Lys Phe Leu Glu Ile Phe Lys Glu Glu Thr Phe Pro Pro Gly Ser Ser		
145	150	155
Ile Leu Phe Ala Leu Ser Pro Thr Gly Ser Leu Thr Val Ala Phe Ser		
165	170	175
Lys Asp Asp Ser Ile Pro Glu Thr Gly Ile Ala Val Ile Glu Asn Lys		
180	185	190
Leu Leu Ala Glu Ala Val Leu Glu Ser Ile Ile Gly Lys Asn Gly Val		
195	200	205
Ser Pro Gly Thr Arg Leu Ser Val Ala Glu Arg Leu Ser Gln Leu Met		
210	215	220
Met Lys Asn Lys Asp Glu Lys Glu Val Ser Asp His Ser Leu Glu Glu		
225	230	235
Lys Leu Ala Lys Glu Asn		
245		

<210> 112
 <211> 3115
 <212> DNA
 <213> Arabidopsis sp.

<400> 112
 cacacgttct cgtccttttc ttcttcctct ctgcattctt cacagagttt gtcaccacca 60
 acaccaaaca cacaatttca cattcttttg catatttctt cttcttcttc cattatggag 120
 atacggagct tgattgtttc tatgaaccct aatttatctt cctttgagct ctctcgccct 180
 gtatctcttc tcactcgctc actagttccg ttccgatcga ctaaaactagt tccccgctcc 240
 atttctaggg ttccggcgct gatctccacc ccgaatagtg aaactgacaa gatctccggt 300

aaacctgttt acgtcccgac gtctcccaat cgcgaaactcc ggactcctca cagtgggtaa 360
 attgatccat tccattccat ttctcttctc ttgtttgttt tattaagctc caatttcagt 420
 ttctgtctttt aatttatatg ttcttcttac gatcagtgagg acttaaaaaa ttgctccttt 480
 aaatgcttca gtatgttttg agtattacaa agttgtaaga ttttattttt attcatttg 540
 tggctcacca ttcgacgact acttttgaat ttgagttttt gaaaaatgca atttaacatc 600
 agagagtttt tttttttatg gttgataact tattgtttta cttttgaaaa atgcagatac 660
 catttcgatg gaacacctcg gaagtcttc gagggatggg atttcagggg ttccatccca 720
 gagaagaggg agagtttttg ttttatgtat tctgtggaga atcctgcatt tcggcagagt 780
 ttgtcaccat tggaagtggc tctatatgga cctagattca ctgggtgttg agctcagatt 840
 cttggcgcta atgataaata tttatgcaa tacgaacaag actctcaca tttctgggga 900
 ggtaactcct tgacccttaa aatgctgtgt catgacaata agaaatcata tctgagtctt 960
 ttctctactt ctagtactaa tgctcgttat tgttggttaa gatctaagtc ttatctgaat 1020
 tttgttacat tttggttctg gtgctttctc aacatgaatt tgtatatatg actttaaaga 1080
 ttgcttacct aaagttttta ctcatgcata gatcgacatg agctagtttt ggggaatact 1140
 tttagtgtctg tgccaggcgc aaaggctcca aacaaggagg ttccaccaga gggtctcact 1200
 cctcccttgt tggttacttt gttatctgtt aaatagtttt ccaattgtat ccggatagt 1260
 ttctacttct cctgttagaa aatctcaagt tttgttact cttgctattc tcttgatgt 1320
 tgatttgtaa agcatgtcgt tttattgtag gaatttaaca gaagagtgtc cgaagggttc 1380
 caagctactc ctttttgga tcaaggtcac atttgcatg atggccgga attatatgat 1440
 tctatgcaca acaagaattc actatattat aaatattggat attgagtat tttgttgaa 1500
 aatttctgtg tttaaatctg acttgacttg tttgtcagt actgactatg cggaaactgt 1560
 gaaatctgtc cggtgggagt atagtactcg tcccgtttac gggtgggggtg atgttggggc 1620
 caaacagaag tcaactgcag gctggcctgc agcttttcct gtatttgagc ctcatggca 1680
 gatatgcag gcaggaggcc tttccacagg tgtgagcttt gcttgattga cttaaagtta 1740
 ataaatagac ggtaagtgtt acttgcttag tactaacaga aaattaagaa agaaaccacc 1800
 ctctttctat cagcagaaac tgctattgta gttcttattt tttctcttgt atttgaggg 1860
 tggatagaat ggggcggtga aaggtttgag tttcgggatg caccttctta ttcagagaag 1920
 aattgggggtg gaggttccc aagaaaatgg ttttgggtaa aacatttcat ccttttgcta 1980
 catttcttgt tgcagacttt agttagctag tggacctgtg tatacccca catgtagtat 2040
 acttgttga tagctttatt tgtcaatgtc tctttacagg tccagtgtaa tgtctttgaa 2100

ggggcaactg gagaagttgc tttaaccgca ggtggcgggt tgaggcaatt gcctggattg 2160
 actgagacct atgaaaatgc tgcactggta tgcacttata agatcttctt aagcaatgac 2220
 agtgagtatt agaaggcaga tagtttataa aagctctggg cccttgtaaa tctgcagggt 2280
 tgtgtacact atgatggaaa aatgtacgag tttgttcctt ggaatgggtg tgtagatgg 2340
 gaaatgtctc cctgggggta ttggtatata actgcagaga acgaaaacca tgtggtaaat 2400
 ttgttttact agtttcattc agttttactt ttgacatcat atcattccct tatggctaga 2460
 ttccaacacc cgatgaatgt cttgtgacag gtggaactag aggcaagaac aatgaagcg 2520
 ggtacacctc tgcgtgctcc taccacagaa gttgggctag ctacggcttg cagagatagt 2580
 tgttacggtg aattgaagtt gcagatatgg gaacggctat atgatggaag taaaggcaag 2640
 gtatgtatgc taatgtgatc caatccctgt agttaaagt ctaacaaat cctaaggcag 2700
 tgaaagaaga ttatgaacgt ttgttatggt taacaatgat gcaggtgata ttagagacaa 2760
 agagctcaat ggcagcagtg gagataggag gaggaccgtg gtttgggaca tggaaaggag 2820
 atacgagcaa cacgcccag ctactaaaac aggtcttca ggtcccattg gatcttgaaa 2880
 gcgccttagg tttggtcctt ttcttcaagc caccgggtct gtaacattga tgagtgtttt 2940
 gtttgttgat agagacccat gtgatgaatg aagccttagt catgtcattg ctagcttcac 3000
 tattatgtat gtatgatttt agttcgttcg gtccttgtgg taaatgatac gggccagtgt 3060
 aaagtctagt tcaataaaag ccttgagtcg cataatttca atttcaaatt gcac 3115

<210> 113
 <211> 536
 <212> DNA
 <213> Arabidopsis sp.

<400> 113
 cccccaaac atcacaatth cacattcttt tgcatatttc ttcttcttct tccattatgg 60
 agatacggag cttgattggt tctatgaacc ctaattttatc ttcttttgag ctctctcgcc 120
 ctgtatctcc tctactcgc tcaactagttc cgttccgac gactaaacta gttccccgt 180
 ccattttctag ggtttcggcg tcgatctcca cccgaatag tgaaactgac aagatctccg 240
 ttaaacctgt ttacgtccc acgtctccca atcggaact ccggactcct cacagtggat 300
 accatttcga tggaacacct cggaagttct tcgagggatg gtatttcagg gtttccatcc 360
 cagagaagag ggagagtttt tgttttatgt attctgtgga gaatcctgca tttcggcaga 420
 gtttgtcacc attggaagt gctctatatg gacctagatt cactgggtgt ggagctcaga 480
 ttcttggcgc taatgataaa tttttatgcc aatacgaaca agactctcac aatttc 536

<210> 114
 <211> 411
 <212> PRT
 <213> Arabidopsis sp.

<220>
 <223> Peptide PIR: TO4448 shown in Figure 31

<400> 114

Pro Glu Lys Arg Glu Ser Phe Cys Phe Met Tyr Ser Val Glu Asn Pro
1 5 10 15
Ala Phe Arg Gln Ser Leu Ser Pro Leu Glu Val Ala Leu Tyr Gly Pro
20 25 30
Arg Phe Thr Gly Val Gly Ala Gln Ile Leu Gly Ala Asn Asp Lys Tyr
35 40 45
Leu Cys Gln Tyr Glu Gln Asp Ser His Asn Phe Trp Gly Asp Arg His
50 55 60
Glu Leu Val Leu Gly Asn Thr Phe Ser Ala Val Pro Gly Ala Lys Ala
65 70 75 80
Pro Asn Lys Glu Val Pro Pro Glu Glu Phe Asn Arg Arg Val Ser Glu
85 90 95
Gly Phe Gln Ala Thr Pro Phe Trp His Gln Gly His Ile Cys Asp Asp
100 105 110
Gly Arg Thr Asp Tyr Ala Glu Thr Val Lys Ser Ala Arg Trp Glu Tyr
115 120 125
Ser Thr Arg Pro Val Tyr Gly Trp Gly Asp Val Gly Ala Lys Gln Lys
130 135 140
Ser Thr Ala Gly Trp Pro Ala Ala Phe Pro Val Phe Glu Pro His Trp
145 150 155 160
Gln Ile Cys Met Ala Gly Gly Leu Ser Thr Gly Trp Ile Glu Trp Gly
165 170 175
Gly Glu Arg Phe Glu Phe Arg Asp Ala Pro Ser Tyr Ser Glu Lys Asn
180 185 190
Trp Gly Gly Gly Phe Pro Arg Lys Trp Phe Trp Val Gln Cys Asn Val
195 200 205
Phe Glu Gly Ala Thr Gly Glu Val Ala Leu Thr Ala Gly Gly Gly Leu
210 215 220
Arg Gln Leu Pro Gly Leu Thr Glu Thr Tyr Glu Asn Ala Ala Leu Val
225 230 235 240
Cys Val His Tyr Asp Gly Lys Met Tyr Glu Phe Val Pro Trp Asn Gly
245 250 255
Val Val Arg Trp Glu Met Ser Pro Trp Gly Tyr Trp Tyr Ile Thr Ala
260 265 270
Glu Asn Glu Asn His Val Val Glu Leu Glu Ala Arg Thr Asn Glu Ala
275 280 285
Gly Thr Pro Leu Arg Ala Pro Thr Thr Glu Val Gly Leu Ala Thr Ala
290 295 300
Cys Arg Asp Ser Cys Tyr Gly Glu Leu Lys Leu Gln Ile Trp Glu Arg
305 310 315 320

Leu Tyr Asp Gly Ser Lys Gly Lys Leu Lys Val Leu Thr Asn Pro Lys
 325 330 335

Ala Val Lys Glu Asp Tyr Glu Arg Leu Leu Trp Leu Thr Met Met Gln
 340 345 350

Val Ile Leu Glu Thr Lys Ser Ser Met Ala Ala Val Glu Ile Gly Gly
 355 360 365

Gly Pro Trp Phe Gly Thr Trp Lys Gly Asp Thr Ser Asn Thr Pro Glu
 370 375 380

Leu Leu Lys Gln Ala Leu Gln Val Pro Leu Asp Leu Glu Ser Ala Leu
 385 390 395 400

Gly Leu Val Pro Phe Phe Lys Pro Pro Gly Leu
 405 410